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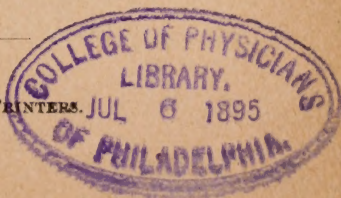
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VIRGINIA MEDICAL MONTHLY.

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RICHMOND, APRIL, 1894.

Original Communications.

ART. I.—Hysterectomy for Fibrous Tumor, Complicated by
Pregnancy—With Report of a Successful Case.*

By J. W. LONG, M. D., of Richmond, Va.,

PROFESSOR OF DISEASES OF WOMEN AND CHILDREN IN THE MEDICAL COLLEGE OF VIRGINIA.

Surgeons are rapidly coming to understand that fibrous tumors are not such "innocent deformities" as was believed for many years. Particularly is this true when a woman, the subject of a fibrous tumor, happens to become pregnant. The special dangers to which a woman in this condition is subjected are:

- (1) Lively impulse to the growth of the tumor.
- (2) Edematous softening.
- (3) Internal strangulation from retroflexion.
- (4) Abortion.
- (5) Difficult labor.

1. The more *rapid growth* of fibrous tumors when pregnancy occurs has been noticed by all observers, and may be

* Read before the Richmond Academy of Medicine and Surgery, January, 1894.

put down as the rule of such growths. This sudden increase in the size of the tumor augments any pressure symptoms which may be present, as, for instance, the pain from pressure on the sacral plexus. Besides this, the patient is quickly precipitated from the *minimum* dangers of a *small* fibroid into all the *maximum* dangers of a *large* fibroid. The rapid growth of the tumor in these cases is forcibly illustrated by the case reported this evening—the tumor not having been noticed by the patient till Thursday before the operation on Tuesday.

2. *Œdematous softening* has often been noticed, and is a condition not desirable—even in a fibroid.

3. *Internal strangulation* is possibly not the best term to employ, but by it is meant that condition produced by a retroflexed gravid uterus—the subject of a fibroid, and imprisoned beneath the promontory of the sacrum. The symptoms are sometimes very acute, and the subject of them is never free from danger.

4. The most common, but not the least grave, result is *abortion*; and because of involution being much interfered with, *hæmorrhage* and *septicæmia* are both liable to occur. The frequency and fatality of abortion occurring in this condition is shown by Lefour, who found, in 307 cases, 39 abortions and 14 maternal deaths. Naus, in 241 cases, found 47 abortions.

5. *Labor at term* is much more hazardous to the woman than even abortion, and offers only one chance out of three to the child. Susserott collected 147 cases of pregnancy, complicated by fibroids, that went to term—78, or 53 per cent. of these women, and 97, or 66 per cent. of the children died. Nor could these deaths be attributed to ignorance or want of operative skill, for in 20 cases forceps were applied, with the death of 8 women and 13 children; and in 20 version was performed, with the loss of 12 mothers and 17 children; and artificial extraction of the placenta was practiced in 21 instances—13 of the women dying. Tarnier used forceps in 6 cases, losing 4 mothers and 4

children; he also practiced version 6 times, with the death of 3 mothers and 3 children.

In view of these facts, it becomes a very grave question what to do when we are called upon to treat a case of this kind. As a matter of course, much depends upon the *size* and *situation* of the tumor. Without discussing this self-evident proposition, I will formulate the rational treatment of this unhappy combination as follows:

1. Never fail to advise a woman, the subject of a fibroid, of the dangers of pregnancy.

2. Cervical fibroids, whether submucous or interstitial, should always be enucleated if within reach.

3. Subserous fibroids that have small pedicles may be let alone—trusting that they will be pushed aside, and will not take on such rapid growth.

4. Small or medium-sized tumors, that show no special disposition to rapid growth, may be let alone.

5. Large tumors, especially when multiple or interstitial, demand operative interference.

6. Abortion or induced labor are hardly justifiable (*supra*).

7. Cæsarean section is rarely indicated because of the high mortality. Cazin collected 28 cases, with 24 maternal deaths and 8 children extracted dead. Sanger gives 43 cases, 36, or 83.7 per cent., of whom died. [Since writing this paper, I have had the pleasure of witnessing a Cæsarean section at the hands of Howard A. Kelly in Johns Hopkins Hospital, the indication being the presence of two fibroids, so situated as to greatly lessen the pelvic diameters. After extracting the child, which was a lusty boy weighing over seven pounds, the doctor wisely determined to do a *hysterectomy*, which he did after the manner I had previously adopted in the case reported in this paper—*i. e.*, to *suture and drop the pedicle*.]

8. Myomectomy may be practiced in some instances, when there is only one large tumor, and it is situated on the fundus and does not have too broad an attachment to the uterus.

9. When the tumor has a broad attachment, or is situated near the tubes, supra-vaginal hysterectomy is indicated.

Hysterectomy for fibrous tumor complicated by pregnancy, has been done so seldom that I trust the following case, which your distinguished President has asked me to report to the Academy, will prove of interest to you, and I earnestly hope will provoke a free discussion of the subject:

December 26, 1893, while spending the holidays with my family in North Carolina, I was called to High Point by Drs. D. A. Stanton and J. J. Cox to operate on a case of fibroid uterus. The woman (a negress, twenty-one years old,) had taken her bed because of a very mild attack of grip. She called the attention of the doctors to an abdominal tumor, which she claimed to have noticed for the first time on Thursday before. The doctors very properly diagnosed fibroid. On examination, I learned, in addition, that (1) she had been with a man (she was married, but her husband was in the asylum); (2) she had missed three periods; (3) the cervix had a velvety feel; (4) the cervix was hard, but the *lower zone of the body* was soft and could be compressed by one finger in the rectum and the thumb in the vagina (Hegar's sign of pregnancy); (5) I cautiously introduced a sound into the uterus and found its depth to be four inches. This indicated either pregnancy or might be accounted for by the presence of the tumor. I confess that the introduction of a sound in a case of suspected pregnancy is not good practice, but the gentleness with which I did it is indicated by the fact that the membranes are still intact; and in view of the proposed operation, it made little difference any way.

Putting together all of these *probabilities*, I decided that the woman was three months pregnant, and so *put myself on record before the operation*, and operated with the full understanding that the woman was pregnant. After a deliberate consultation, we decided to operate.

The operation consisted briefly, in: a long abdominal incision; no adhesions being found, the tumor and uterus were quickly turned out, the ovarian and uterine arteries ligated and cut, and without any pedicle ligature, the whole was easily cut away at the internal os. The thorough control of the blood supply is shown by the fact that it was not



ANTERIOR VIEW.



POSTERIOR VIEW.

DR. JOSEPH'S CASE OF FIBROID TUMORS COMPLICATED BY PREGNANCY.

1. Fibroid body. 2. Large tumor. 3. Medium-sized tumor. 4. Small tumors. 5. Placenta. 6. Fetus in sac. 7. Cut surface. 8. Ovary. 9. Tube. 10. Ligature on ovarian artery. 11. Ligature on uterine artery.

necessary to apply a single pair of forceps after severing the pedicle. The pedicle was trimmed, the canal cauterized with carbolic acid, superimposed plains of silk sutures applied, and the stump dropped. The peritoneum was carefully sutured on either side, the pelvic cavity made thoroughly dry with sponges, and the abdominal wound closed without drainage. The further history of the case presents "nothing pathological," as my friend Dr. Stanton says. She never had so much as a *rise of pulse*; no nausea, no pain, no tympaning—absolutely *nothing* to indicate that one of the most dangerous operations known to surgery had been done on her. She demanded something to eat and "snuff" the very next day (she lives in North Carolina.)

It gives me pleasure to present the specimens to the Fellows this evening. You will observe that there are several tumors—five or six at least. The large tumor lay to the woman's left, and, as you see, seems to involve the whole fundus. The smaller tumor was to the left, and I mistook it for the pregnant fundus; but I noted in examination (before operation) that it was wider transversely than antero posteriorly. This would not be true in a three-months' pregnant fundus (Hegar's sign). Per vaginam, I found the cervix *high up* behind the pubis and to the left, and I could not touch the body of the uterus—in fact, could feel only the lower surface of the large tumor. Per rectum, I could easily feel the left tube and ovary and a soft body, which proved to be the pregnant uterus; on the right, I felt a hard, round body, which I thought might be the right ovary, but was really a small tumor. On opening the abdomen, the right tube and ovary were almost directly in front, while the left were almost in the median line behind, showing that the uterus was partially rotated on its longitudinal axis.

In looking over the literature of abdominal surgery, I find comparatively few of these cases reported, and in quite a large per cent. of these the operation was undertaken *without the knowledge of pregnancy* existing. Unless some one else can produce a case antedating mine, I may justly claim to be the first surgeon in the South who deliberately did a hysterectomy for fibrous tumor *complicated with pregnancy*. And possibly the first one in America to *suture and drop the pedicle*.

412 E. Grace Street.

ART. II.—Contribution to the Natural History and Treatment of Diphtheria in the United States, and More Especially in New Orleans, La.

By JOSEPH JONES, M. D., LL. D., of New Orleans, La.

PROFESSOR OF CHEMISTRY AND MEDICAL JURISPRUDENCE IN THE MEDICAL DEPARTMENT
TULANE UNIVERSITY, LOUISIANA, ETC

In 1736, Dr. Douglas, of Boston, published the first account of the prevalence of a distemper, attended with sore throat and great mortality, which corresponded with diphtheria.

On October 1st, 1753, Mr. Cadwallader Colden, of Coldenham, New York, in a letter to Dr. Fothergill, says, the first appearance of the distemper was at Kingston, an inland town of New England, about 1735. It spread from thence gradually westward, so that it did not reach Hudson's river until nearly two years afterwards. It continued on the east side of Hudson's river before it passed to the westward, and appeared first in those places in which the people of New England resorted for trade, and in the places to which they travelled.

It continued to move westwardly until I believe it has at last spread over all the British colonies on the continent.

Children and young persons were very subject to it; but there were a few exceptions of some above 20 or 30, or a few old people who died of it. The poorer sorts of people were more liable to have the disease than those who lived well, with all the conveniences of life, and it has been more fatal in the country than in great towns.

"It is attended with a moist, putrid heat, the skin being seldom parched. The pulse is usually low, but frequent and irregular; the countenance dejected, with lowness of spirits; no considerable thirst, the tongue much furred, and the furring sometimes extends all over the tonsils as far as the eye can reach. At other times, the tonsils appear only swelled, with white specks of about a quarter of an inch or half an inch in diameter, which are thrown off from time to time in tough cream-colored sloughs. Sometimes all the parts near the gullet or throat are much swelled, both inwardly and

outwardly, so as to endanger suffocation, and frequently mortify; sometimes these swellings even imposthume. The last complication commonly causes an oppression or stricture in the upper part of the chest, with difficulty in breathing, and a deep, hollow, hoarse cough, ending in a livid, strangled-like countenance, which is soon followed by death. This disease is not often attended with that loss of strength that is usual in other fevers, so that many have not been confined to their beds, but have walked about the room until within an hour or two of their death, and it has often appeared in no way dangerous to the attendants till the sick were in their last agony. Some died on the fourth or fifth day; others on the fourteenth or fifteenth day, or even later."

"When this disease first appeared, it was treated with the usual evacuations, as a common angina, and few escaped. In many families, who had a great many children, all died. No plague was more destructive."

The following graphic description of "diphtheria" is taken from a paper by Dr. Bard,* published in 1789:

"In general, this disease was confined to children under ten years old, though some few grown persons, particularly women, had symptoms very similar to it. Most of those who had it were observed to droop for several days before they were confined, and the first symptoms in every case were a slightly inflamed and watery eyes, a bloated and livid countenance, with a few red eruptions here and there upon the face, and in one case a small ulcer in the nose, whence oozed an ichor so sharp as to inflame and erode the upper lip. At the same time, or very soon after, such as could speak complained of an uneasy sensation in the throat, but without any very great soreness or pain. Upon examination, the tonsils appeared swelled and slightly inflamed, with a few white specks upon them, which, in some, increased so as to cover them all over with one great slough."

In Dr. Bard's account of a post-mortem examination of the membrane, he speaks of it as being so tough as to require no inconsiderable force to tear it.

In another part of the same paper, Dr. Bard speaks of

*"An Inquiry into the Nature, Cause and Cure of the Angina Suffocatoria, or Sore Throat Distemper," by Samuel Bard, M. D., *Transactions of the American Philosophical Society*, Philadelphia, 1789.

ulcers which had formed as being covered with sloughs resembling those on the tonsils.

Dr. Bell, of Philadelphia, in 1831, speaks of diphtheria as having occurred as an epidemic in that city, but it does not seem to have extended over the country, and we hear nothing more of it until 1856, when it again broke out in California, and particularly in the counties around the bay of San Francisco, and prevailed to an alarming extent.

There may have occurred sporadic cases in the various States of the Union which were overlooked; but it cannot be supposed that it prevailed as an epidemic, else we should see some trace of it in medical literature during the interval we have mentioned.

In 1858, it made its appearance at New Orleans, Chicago, and Albany, almost simultaneously. In Albany, so severe was the epidemic that 179 died within the limits of the city in less than a year; of these, says Dr. Willard, but three were adults, the remainder were mostly children under 12 years of age.

From this time, it appears to have gradually extended over the country, for we hear of it in Cincinnati early in 1858, and in some of the New England States, although it was not very extensive, for the deaths reported are only five in Pennsylvania, fourteen in Vermont, and six in Rhode Island. But it was not until 1860 that it became generally prevalent throughout the United States, and carried terror to the inhabitants of every hamlet. During this year it was reported in most of the Southern and Western States.

The fact that diphtheria has prevailed throughout the length and breadth of the land, in elevated and salubrious regions, as well as in the miasmatic regions of the Valley of the Mississippi, appears to explode the theory of some that it owes its origin to the peculiarity of the sub-soil of a germ district, or to the humidity of the atmosphere.

Diphtheria prevailed in the driest and purest regions of California, as well as the most humid climates of malarious districts; it is therefore due to a specific contagion—transmissible from person to person.

We will now direct our attention more specifically to the *History of Diphtheria in New Orleans, La.*

Of the total number of 42 deaths, caused by diphtheria in New Orleans during 1882, 37 were white and 5 colored.

Diphtheria first occurred on the records of Charity Hospital in 1859, when 5 cases were reported; 1860, 10 cases, 1 death; 1864, 7 cases, 6 deaths; 1867, 2 cases; 1868, 1 case, 1 death; 1870, 6 cases, 2 deaths; 1871, 2 cases, 1 death; 1873, 1 case; 1874, 2 cases, 2 deaths; 1875, 1 case, 1 death; 1876, 1 case, 1 death; 1877, 1 case, 1 death; 1878, 1 case; 1880, 1 case. Total in Charity Hospital during 34 years (1846-1880), cases, 43; deaths, 14; per cent. of deaths, 32.5.

Diphtheria first appeared in the list of diseases in the mortuary record of New Orleans in 1847. During a period of nineteen years, including the American Civil War, the deaths from diphtheria in New Orleans were as follows: 1854, 1; 1858, 95; 1859, 253; 1860, 145; 1861, 78; 1863, 188; 1864, 337; 1865, 104. Total, 1,201. During the period following the War, the deaths from diphtheria were as follows: 1866, 98; 1867, 31; 1868, 10; 1869, 19; 1870, 19; 1871, 14; 1872, 39; 1873, 46; 1874, 102; 1875, 69; 1876, 40; 1877, 33; 1878, 59; 1879, 58; 1880, 81. Total during fifteen years, 724; total thirty-four years, 1,925.

The deaths by races during the six years named were as follows: 1877, whites 24, colored 9, total 33; 1878, whites 55, colored 4, total 59; 1879, whites 48, colored 10, total 58; 1880, whites 75, colored 6, total, 81; 1881, whites 77, colored 15, total 92; 1882, whites 37, colored 5, total 42. Total during six years, 1877-1882, whites 316, colored 49, total 365.

Total deaths from diphtheria in New Orleans during a period of thirty-six years, 1843-1882, 2,059.

It is evident from the statistics furnished by the years 1877-1882 inclusive that diphtheria prevailed to a greater extent amongst the whites than the colored race. During the same period scarlatina caused 311 deaths—whites 262, colored 49.

Whilst diphtheria has been described under many names—without, however, an exact appreciation of its distinctive character—by Hippocrates, Celsus, Sydenham, and others, from the dawn of medical history to the present day, it was not until 1826 that Bretonneau, of Tours, created the

name, and first pointed out the true pathology of the disease in his work entitled "*Recherches, etc., sur la Diphtherite.*"

Bretonneau, in his latest memoir, substituted the term diphtherie for diphtherite, having arrived at the conclusion that the disease was not of an inflammatory character. Whilst diphtheria was almost unknown in English medical literature until 1859, when the Sydenham Society published a volume of memoirs on the disease, translated by Dr. Simple, from the French, by Bretonneau and others, it is, nevertheless, established by the records of the Charity Hospital and by the mortuary records of New Orleans, that this disease was recognized as early as 1847 by the physicians of New Orleans, and that 95 deaths were attributed to it in 1858 and 253 deaths in 1859.

During a period of thirty-four years—1847 to 1880—diphtheria caused 1,925 deaths, whilst the mortality occasioned by the diseases specified during the same time was as follows: Small-pox, 5,726; measles, 1,589; scarlatina, 2,066; yellow fever, 28,739; Asiatic cholera, 11,847; cholera morbus, 889; cholera infantum, 2,408; tuberculosis, 208; phthisis pulmonalis, 24,071; tabes mesenterica, 4,591; general dropsy, 2,554; trismus nascentium, 5,906; hydrophobia, 70; convulsions, 3,202; infantile convulsions, 6,016; delirium tremens and intemperance, 1,887; croup, 1,410; laryngitis, 269; bronchitis, 2,992; bronchitis, chronic, 178; pneumonia, 8,410; teething, 3,430; enteritis, 6,915; dysentery, 7,097; diarrhœa, 8,289; hepatitis, 1,415. Total deaths during this period, 242,426.

It is evident from the preceding statement that during a period of thirty-four years the deaths from diphtheria were very nearly equal to those caused by scarlatina, and exceed those occasioned by measles and those by croup. Out of a grand total of 242,426 deaths, diphtheria caused about the one hundred and twenty-sixth part of the whole.

Whilst epidemics of diphtheria have occurred in many countries far apart from one another, and differing essentially in physical features and climate, it nevertheless appears well-established that in recent years the geographical

distribution of this disease has been greatly extended by increasing intercommunication of people.

Holding the view that diphtheria is contagious, and that poverty and its concomitants, unventilated, filthy lodgings, scanty clothing, and imperfect alimentation, impart to individuals a receptivity for its contagion, the sanitary inspectors and police of the Board of Health have been directed to institute measures of isolation and disinfection in this disease, as well as in scarlatina and small-pox.

The following table shows the deaths from diphtheria by months, annually, from 1869 to 1887, in New Orleans:

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
1869, -	2	...	1	4	1	2	6	2	...	1	...	...	19
1870, -	3	...	...	1	4	2	...	1	1	1	4	2	19
1871, -	...	2	...	1	...	...	1	1	1	2	5	1	14
1872, -	4	5	3	2	6	...	3	...	5	5	5	1	39
1873, -	7	1	...	2	2	1	3	4	6	7	8	5	46
1874, -	8	4	6	9	6	10	13	6	6	7	14	13	102
1875, -	1	6	10	4	6	...	7	11	8	7	3	6	69
1876, -	4	5	3	...	3	6	3	3	1	...	6	6	40
1877, -	7	2	4	3	3	5	1	1	4	2	1	2	35
1878, -	3	4	4	10	3	6	5	4	5	2	7	6	59
1879, -	7	4	3	4	2	5	2	9	4	10	7	7	64
1880, -	6	7	4	2	5	9	6	7	2	14	10	13	85
1881, -	15	16	9	5	7	6	6	8	5	5	5	3	91
1882, -	3	1	2	7	1	6	3	2	3	5	2	7	42
1883, -	3	8	7	3	2	3	6	4	7	4	6	12	65
1884, -	8	4	5	3	5	9	3	4	9	16	17	11	94
1885, -	12	12	8	12	6	7	5	16	6	20	20	24	143
1886, -	16	9	4	8	5	3	6	4	4	11	11	14	95
1887, -	8	8	7	10	6	7	9	21	16	39	27	27	185
Total, -	117	98	80	90	73	87	88	108	93	158	158	160	1311

During the four years, 1880-1883, the deaths from diphtheria numbered 183, and during the four succeeding years, 1884-1887, numbered 519.

The disease proceeds with accelerated power under the new regime, as will be seen from the following statistics illustrating the number of cases and deaths from diphtheria in 1888, as well as the gross mortality for this year:

			CASES.			DEATHS.		
			Whites.	Colored.	Total.	Whites.	Colored.	Total.
January,	-	-	43	9	52	10	4	14
February,	-	-	32	4	36	12	....	12
March,	-	-	33	5	38	14	2	16
April,	-	-	32	9	41	11	3	14
May, -	-	-	43	13	56	18	4	22
June,	-	-	35	15	50	12	10	22
July, -	-	-	56	26	82	15	10	25
August,	-	-	78	51	129	27	22	49
September,	-	-	97	39	136	27	21	48
October,	-	-	88	16	104	33	7	40
November,	-	-	57	15	72	18	6	24
December,	-	-	29	7	36	12	2	14
Total,	-	-	623	209	832	209	91	300

Estimated population in 1888, 248,000—whites, 180,000; colored, 68,000. Total deaths, 6,301—whites, 4,122; colored, 2,179. Death rate—Whites, 22.90; colored, 32.04; total, 25.41. Deaths from measles, 2; scarlatina, 9; whooping cough, 59; typhoid fever, 47; diarrhoeal diseases, 652; phthisis pulmonalis, 818. Under one year, 1,433; under five years, 2,104.

Without doubt, the number of cases reported were under the actual number, as amongst the poorer classes whole families passed through the disease without employing a physician, and many of the milder cases treated by physicians were never reported to the Board of Health.

DEATHS BY DIPHTHERIA BY COLOR FROM 1887 TO DECEMBER 1, 1893.

Years.			White	Colored	Total.
1887,	-	-	162	23	185
1888,	-	-	208	92	300
1889,	-	-	93	42	135
1890,	-	-	69	15	84
1891,	-	-	50	6	56
1892,	-	-	43	9	52
1893,	-	-	67	11	78
			692	198	890

That a "*filth disease*," *diphtheria*, should commit its greatest ravages in 1886, 1887, and 1888, seems to be the natural result of the powerless condition of the Board of Health, the utter loss of influence for sanitary reform on the part of the New Orleans Auxiliary Sanitary Association, and the indifference and neglect of the municipal authorities, de-

picted in glowing terms by the President of the Board of Health in his annual report for 1888.

The American Medical Association, at the meeting in Boston in June, 1865, appointed a committee, composed of Drs. H. D. Holton, Oliver D. Norton, Thomas Ryerson, and J. S. B. Allayne, for the *Systematic Investigation of the Causes, Nature and Treatment of Diphtheria in the United States*. This Committee issued a circular September 1, 1865, embracing the following inquiries:

I. Has diphtheria occurred in your practice? If so, when did it first make its appearance? (Please state the year and month in which it prevailed, and how many cases came under your observation.)

II. Did it occur as a sporadic, endemic, or epidemic disease?

III. Did the disease affect one class or age more particularly, and what were its general characteristics?

IV. What, in your opinion, are the general and the exciting causes of the disease?

V. Do you consider diphtheria and scarlet fever identical?

VI. Do you consider it communicable?

VII. What other diseases were especially prevalent at the time?

VIII. Do you know of any disease having affected animals during the occurrence of diphtheria in the community?

IX. Have you seen the diphtheritic membrane developed upon the cutaneous surface or on wounds?

X. In what proportion of cases has the disease invaded the larynx? also the œsophagus?

XI. What are the sequelæ?

XII. What has been the result of post-mortem or microscopical examinations?

XIII. In what proportion of cases have you found albumen in the urine?

XIV. What has been the rate of mortality or the immediate cause of death?

XV. What was the general course of treatment pursued by you, and what particular remedial agents seemed to be most productive of good?"

These inquiries were extensively circulated by the Committee among the medical profession throughout the United

States, and every effort made to collect facts germane to the subjects. The success attending these efforts, although not so full as was desired, were still of great value, and we will endeavor to consolidate the most important from the original report.*

(a) In the replies of physicians, a wide latitude was used in the application of the term diphtheria to diseased conditions, to the fauces, and adjacent structures, and there is no doubt that some practitioners have dignified aphthæ, cancrum oris and ulcerated tonsillitis with the name diphtheria. This has occurred in some cases through ignorance, and in others for the purpose of gaining a reputation for successfully treating it, which has been quickly swept away on the appearance of the real disease.

(b) By diphtheria, the Committee of the American Medical Association, as voiced by Dr. H. D. Holton, Putney, Vermont, intended to designate "A disease which may occur sporadically, but which is much more likely to occur epidemically. It is usually ushered in with chills more or less severe, followed by a well-marked febrile excitement. At the same time, there is a feeling of stiffness and slight soreness about the throat, accompanied with swelling of the seral glands, particularly at the angle of the lower jaw, together with the tonsils.

On a careful inspection of the fauces, we found the whole mucous surfaces highly inflamed, sometimes œdematous, particularly the uvula; at the same time, the tonsils will be covered with whitish specks or patches, between which may be observed a semi-transparent liquid much resembling a solution of gum arabic, which is the membrane as it is first thrown on the mucous surface. This soon becomes opaque, and has the appearance of wet *buckskin*.

This varies in color, being of a dirty white, yellow, or brownish tinge. It is the presence of this membrane which

* Report of the Committee on Diphtheria, as it has occurred in the United States. By Henry D. Holton, M. D., Putney, Vermont. *Transactions of the American Medical Association*, Volume XVII. 1866. Pages 287-308.

has given the name to the disease. (The word diphtheria is derived from the Greek word signifying prepared hide or leather.)

(c) The Committee of the American Medical Association adopted the microscopical description of the meaning of diphtheria given by Dr. Vedder in the *American Times*.

"The membrane was from the larynx, bronchial tubes, and œsophagus. Although the membrane is quite soft in the larynx, and quite firm in the bronchial tubes, it contains the same microscopical elements in all its parts. These elements are cells, granules, very sparing, but firm, fibrillated, and a matrix to hold the cells and granules together. The cells are the size of pus-cells, and some are really pus-cells, but much the larger number are flat, either enucleated or not, and are of irregular outline. In the œsophagus, a few are elongated, and a still smaller number are protracted at an extremity into a thread—that is, as if they were to form membrane by this metamorphosis. In three fields, I found but one of the large flat cells so common in ordinary croup. In that disease, cells are often seen; at first bounded with a pretty large nucleus, then cast, then elongated, and applied to each other, side by side, to make a sheet of membranes."

"He found no animalculæ nor vegetable production of any kind. This disposes of the theory of those who have affirmed that the diphtheritic membrane was composed of vegetable matter; where vegetable spores do occur, it is probably an accident." (Page 289.)

(d) The Committee of the American Medical Association regarded those only as diphtheria which presented the characteristic membrane, and excluded the ordinary cases of sore throat which are apt to prevail during an epidemic of this disease.

(e) Diphtheritic membrane may form upon other surfaces than that of the throat, as the denuded cutaneous surface upon the conjunctiva, vulva, and vagina.

(f) The facts collected by the Committee exploded the

theory that diphtheria owed its origin to local causes, the character of the subsoil, and to the humidity of the climate. They dismiss the theories of local causes and look for a more general means of explanation, such as a general atmospheric cause, dependent either upon some new elements introduced into the atmosphere, or upon a change of the relative proportion of its normal constituents. In either case, the effect would be to vitiate the blood and depress the vital powers, particularly of those individuals who are already susceptible by constitutional vice, improper food, ill ventilation, etc.

They were persuaded that "*Facts pronounce diphtheria to be a blood disease; that the membrane is one of its manifestations, which must be considered as its diagnostic mark.*"

(g) That the cause was atmospheric would seem to be sustained by the fact that while diphtheria was prevailing in New York, and various parts of New England, cattle were dying from exudative pleuro-pneumonia, particularly in Massachusetts and other New England States.

(h) With regard to the particular class or age affected by diphtheria, the statistics collected from the Registration Reports of the State of Massachusetts, 1868–1873, including a total of deaths from diphtheria, of 3,034; of the State of Rhode Island, for six years; of New England, for 1863 and other years, establish that, although no age is entirely exempt, diphtheria is a disease more particularly affecting those in early life. It appears to be more a disease of the country than the city.

(i) With reference to the relations of the three diseases—diphtheria, croup, and scarlatina—these are radically distinct diseases, as shown by statistics, in sex, period of life, and season of the year.

Diphtheria and croup are most fatal in the fourth quarter of the year, the former in the largest proportion, whilst scarlatina prevails most in the first quarter; diphtheria occurs in largest excess in the second half of the year, whilst scarlatina belongs in still larger excess at the first; and croup also in diminished excess.

In diphtheria, a large excess of females die, as also a less excess in scarlatina, while there is a large preponderance of male decedents in croup.

In diphtheria, about one-half of the deaths occur under five years of age, and extend in considerable measure into adult life; while, in croup, about seven-eighths die under five years, and fatal cases scarcely extend into adult life at all.

Scarlatina approaches to diphtheria in early fatality, and very seldom occurs after ten years of age.

Croup always prevails—diphtheria prevails epidemically. Croup is a terribly fatal disease, but it never appears (that is, the croupous membrane,) upon the vagina, rectum, nasal passages, œsophagus, mouth, gums, or skin. These are accidents of diphtheria and not croup. Croup is not attended by paralysis, permanent loss of voice, and hæmorrhages.

When diphtheria is epidemic, its peculiar symptoms are often mixed with those of membranous croup.

The formidable sequelæ of diphtheria are novelties to those physicians who have had the widest experience in croup.

(j) There is no form of croup which terminates in a fatal cyanosis without apnœa, or in hæmorrhage, or purpura, or in gradual sinking, without apparent cause, or sudden collapse, when all the symptoms promise recovery.

Croup does not entail, during convalescence, long alteration of the voice; paralysis, more or less complete, of the muscles engaged in deglutition; himiplegia; strabismus; impaired vision, numbness and bungling of the feet and hands, followed by general paralysis, more or less complete, anæsthesia of parts, and sometimes of a large portion of the body, and long-continued anæmia. All these symptoms are common in diphtheria.

In croup, the danger is in direct ratio to the severity of the local inflammation, the membranous tracheitis, or the bronchitis or pneumonia that follow after.

In diphtheria, when it is tracheal, the urgent danger is

the same as in croup; but if the membrane is discharged, there is little fear of bronchitis or pneumonia.

But the great distinctive fact is yet to be stated. It is, that in diphtheria a much greater number of the children die among those whose air-passages have not been touched by the disease, and whose breathing has not been embarrassed for a single minute, than among those suffering from tracheal obstruction.

There are probably eight or ten cases of tonsillar, pharyngeal, nasal and œsophageal diphtheria in which the membrane does not extend to the larynx and trachea for one in which it does.

Now, while it is out of this large class that most of the recoveries occur, this same class still furnishes the greater mortality.

It is evident, then, that diphtheria destroys more than half its victims by methods entirely unknown to croup.

Croup has been regarded as a disease of childhood, so that instances of it in adults have long been cited as medical curiosities, and that diphtheria, although it is emphatically a disease of childhood, does not spare adults, or even the aged.

(k) The distinctions between scarlatina and diphtheria are much more apparent. Whilst scarlatina seldom attacks the same individual more than once, diphtheria may affect the same person an indefinite number of times. Children suffering from scarlatina have, within the same year, been attacked by diphtheria.

This would show that they do not protect the system from each other, and, consequently, cannot, in any sense, be identical.

(l) The weight of the argument is in the contagious nature of diphtheria.

(m) Diphtheria may be divided in—

1st. Diphtheria simplex.

2nd. Diphtheria-maligna or gangrenosa.

3rd. Tracheal diphtheria.

(n) Post-mortem examinations have thrown but little light upon the pathology of diphtheria.

Petechiæ are found, in some instances, upon the cutaneous and mucous surfaces, particularly in the hæmorrhagic cases. Blood clots have been found in the cavities of the heart.

Professor Clark remarks that "The kidneys are, perhaps, more variable in their post-mortem appearances than any other organ of the body. In many cases, they have been found perfectly healthy, in some intensely congested, and in others the epithelial lining of the tubes has a granular appearance, fatty accumulations in the cells, and sometimes within the malpighian bodies. This appearance is probably associated with albuminuria, which is a complication of a certain number of cases in every epidemic; but of the exact proportions we are unable to speak, as but few practitioners have tested the urine for it, and these are in a limited number of cases. We are of the opinion that it occurs much more frequently than it is generally supposed, and that it is much more apt to be found in those cases which may be called malignant, in distinction from the tracheal variety; and that it is in this same class that no cases of ischuria renalis occur which are sometimes met with.

(o) *The causes of death in diphtheria*:—The first two varieties, diphtheria simplex and diphtheria maligna, are usually of an asthenic character, resulting from the blood-poisoning and heart failure. In the last (diphtheria trachealis), death results from strangulation, conjoined of course with the same blood-poisoning. Death occurs from asphyxia, either from contraction of the larynx, as in pseudo-membranous croup, or from reflex paralysis of the nerves of respiration. Death in diphtheria, occurring with laryngeal extension and formation of pseudo-membrane, differs from death occurring in diphtheria from reflex paralysis of the nerves of respiration only in the symptoms of the sound of the voice and respiration.

(p) *The sequelæ of diphtheria* are: Paralysis, either local

or general; rheumatism, and a general cachectic condition, which shows that the system has been borne down by some overwhelming influence that prevents nature in her attempts at recuperation. The most common of these sequelæ is the paralysis; this will be observed in many cases during the exudative process, particularly of the velum palate and the muscles of the tongue. The voice will have a nasal twang, and the food will regurgitate through the nose. The patient will be unable to protrude the tongue, and when asleep it will fall backward, filling up the pharynx and causing the patient to choke and gasp. This arouses him from his momentary slumber, when, with what momentary strength he commands, he brings the tongue into its normal position only to fall back again the moment he falls to sleep.

Occasionally, the paralysis is so great as to require artificial feeding by passing a tube into the stomach. The paralysis may also, during apparent convalescence, affect the muscles of the upper extremities, lower extremities, abdomen, and thorax—the sense of sight, taste, smell and hearing in the order mentioned. Sometimes, there is paralysis of the sensory, and at other times of the motor nerves, occasionally of both.

(q) With reference to *the rate of mortality* in diphtheria, it is hard to determine this with accuracy, as many practitioners pronounce *all* cases of sore-throat diphtheria that occur, irrespective of any membranous formation. Dr. Willard, in the epidemic at Albany, makes the mortality about 1 in 10 or 12; Dr. T. N. Beardsley, of Milford, Conn., says 14 out of 15 cases proved fatal; Dr. Kneeland, of New York, ascertained that the mortality in his vicinity had been 1 in 8; Dr. Saunders, of Madison county, New York, reports it as 1 to 13; Dr. Jacobi, of New York city, as 1 in 17; Dr. Henry D. Holton, of Putney, Vt., about 1 in 20.

(r) With reference to the *treatment of diphtheria*, from a careful examination of the report of the American Medical Association, it is evident that up to 1866 the views of the in-

dividual physicians varied as to the remedies, but all agreed upon the necessity of nourishing and sustaining the patient upon the tonic and stimulant plan of treatment. The general results may thus be stated as to the remedies employed :

(1) Mercury, by Dr. Woodward, of Brandon, Vermont : “Mercury in small doses, with opium to keep it from running off from the bowels, in some cases repeating the dose every hour.” He continued the remedy until the disease was checked, or there was indication of ptyalism ; in either case, the mercury is suspended, and chlorate of potassium substituted. A local wash to be applied twice a day, 20 grains of nitrate of potash dissolved in an ounce of water—applied by a brush. Dr. Woodward says that the mercurial treatment is of vital importance in the malignant variety ; for if the inflammation extends into the trachea before a mercurial impression is obtained, the mercury is almost useless, as the membrane is formed almost as fast as the inflammation itself.

On the contrary, Drs. Mason Turner, of Virginia, and Jærkle, of New York, condemned the use of mercurials as harmful.

Dr. Henry D. Holton advocated a tonic or supporting plan of treatment, opening the bowels at first, avoiding severe purgation. He attempted to maintain the functions of all the organs especially of the kidneys—the nitrate of potash being used as a diuretic. The great constitutional remedies were regarded by Dr. Holton as *tinctura ferri chloridi*, quinine, chlorate of potash.

Nearly all the physicians who replied to the circular spoke of relying upon the preceding remedies. Dr. Gordon, of New York, gave the following excellent formula :

R̄ Tinct. ferri chloridi..... f ʒij
 Quin. sulph.....grs. xvj
 Mel.....f ʒss
 Aquæ destillat... ..f ʒiv

M.—S.: Take a teaspoonful every three hours. Nutritious diet, beef tea, alcoholic stimulants, either alone or combined with cinchona bark ; indispensable—freely used.

Dr. Holton, with others, strongly recommended alcoholic stimulants freely administered, so as to sustain the powers. The chlorine mixture and diluted hydrochloric acid were highly recommended by some. In albuminuria and the hæmorrhage cases, gallic and tannic acids were recommended as valuable agents. Chlorate of potash was administered both locally and internally in from one to two drachms daily.

With reference to local treatment, great diversity of opinion prevails—many holding that frequent swabbing of the throat hurried the disease to a fatal termination, whilst others held that the disease could be cured by local applications. The free use of ice locally to the mouth and throat was recommended by Dr. Hiram Corson, of Pennsylvania. The local solution of the nitrate of silver was generally abandoned as useless, if not injurious.

The insufflation of calomel was regarded as far less valuable than tannic acid blown upon the membrane. Tannic acid in the earlier stages, blown in the throat, was said to relieve the inflammation in a great measure. At a later stage, tannin and glycerin were recommended. Both in local and constitutional treatment, the preparations of iron took the lead.

The tinctura ferri chloridi was the most universal agent used both internally and as a gargle, and applied by a soft brush. The following local application was recommended :

R Chlorate of potash..... ʒj
 Tinct. chloride iron f ʒij
 Pure glycerine..... f ʒij

M.—S.: Apply locally.

Where there was great froth arising from the throat, Dr. Holton found the bromide of iron in the proportion of from ten to fifteen drops in one ounce of mucilage. Gargles of chlorate of potash, hydrochloric acid, lemon juice, vinegar combined with salt and cayenne pepper, hot milk and water, were all strongly recommended by various physicians. Steaming the throat and nasal passages by means of dilute acetic acid, with infusion of hops, will often afford

a great relief, more particularly when there is considerable affection of the Schneiderian membrane or the trachea is invaded.

The external applications may be divided into the irritant and hot fomentations. Under the former head, are recommended salt pork covered with either mustard or cayenne pepper, turpentine, the various stimulating liniments, and perhaps tincture of iodine. By hot fomentations are indicated the various poultices that have been recommended, as the infusion of hops in a weak lye of wood ashes, which gives as much relief as any of them. Where great swelling exists, Dr. Holton found great benefit from a poultice made of the root of the *pyrolacca decandra*.

Tracheotomy is advisable in many cases of tracheal diphtheria. Early operations will be found much more successful than when the patient is about to pass in *articulo mortis*.

In the treatment of the debility and paralysis that so frequently follow this disease, iron again stands first in the list. The pyrophosphate and the citrate of iron and strychnine are the most valuable. The vegetable tonics will also be found useful, as well as electricity, salt-water bathing, and change of air.

From all the facts collected by the Committee, 1865-1866, the chairman, Dr. Henry D. Holton, of Putney, Vt., draws the following deductions:

1. That diphtheria has occurred as an epidemic from time to time from the first settlement of this country.

2. That it is a distinct disease, on no account to be confounded with scarlatina or croup.

3. That it is particularly a disease of childhood, although it exempts no age.

4. That it is communicable to that degree that it is the duty of every physician to separate the infected from those that are well, particularly in children.

5. That it is a disease primarily affecting the blood; consequently the treatment to be effective must be local and general, and of such a nature as to eradicate or neutralize the poison; such

local treatment should, however, be used as will prevent the absorption of the fluid portions of the exudation.

6. *When the exudation has invaded the trachea, the only hope of saving the patient is tracheotomy.*

It is at this writing (1894) more than a quarter of a century (twenty-eight years) since this valuable report, which we have carefully condensed, was written, and we may well ask, *What have been the advances of the medical profession during the past twenty-eight years as to the microscopical characters of the poison of diphtheria, its mode of propagation, and the best methods of the treatment of this fatal and dreaded disease?*

ART. III.—Observations on Puerperal Eclampsia with the History of a Case.*

By W. P. C. HAZEN, M. D., of Washington, D. C.

Literally interpreted, the title, "Puerperal Eclampsia," would mean eclampsia from any cause whatever, occurring during pregnancy and childbed, and this is the meaning accepted by a great many practitioners; but the significance of the term, as understood by the profession generally, is more limited. It means eclampsia occurring during pregnancy and the puerperium and caused by uræmia. This latter definition is the one adopted here.

Speaking on this point, Spiegelberg says. "The renal disorder is by far the commonest cause; it includes all the worst outbreaks of the disease. I think, therefore, that I shall not go far wrong if I, broadly speaking, only regard that eclampsia as puerperal which is due to intoxication of the constituents of the urine." (*Text-Book of Midwifery*, Vol. II, p. 204.)

Fortunately, puerperal eclampsia is not a very common disease. According to Prof. Lusk, it occurs but once in five hundred pregnancies.

Some years ago, the uræmic origin of puerperal eclamp-

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 8th, 1894.

sia was strongly disputed by a number of high authorities. Among the foremost of these was Seyfert, of Prague.

There is no lack of evidence that albuminuria often exists during pregnancy without the supervention of eclampsia; also that puerperal eclampsia occurs, though rarely, without there being a trace of albumin in the urine; hence we can safely say that although albuminuria points to functional derangement in the kidneys, it does not necessarily prove that those excrementitious principles of the urine have been retained in the blood, which so act upon the nerve-centres as to produce eclamptic seizures.

But, as Prof. Lusk says: "It is the renal insufficiency, it should be fixed in the mind, and not the albuminuria, which causes uræmia and convulsions. The mere absence of albumin from the urine does not even exclude the existence of Bright's disease." (*Science and Art of Midwifery*.)

At present, I think it is almost universally acknowledged that uræmia is the direct cause of the convulsions. The problem to be solved is, What causes the uræmia?

There have been a great many ingenious explanations and theories advanced to account for the complication of uræmia during pregnancy. Among others may be mentioned, mechanical pressure of the gravid uterus upon the abdominal aorta and inferior vena cava; pressure upon the renal veins; pressure upon the ureters; pressure upon the bladder and urethra; vaso-motor anæmia of the kidneys, due to reflex irritation of the pelvic plexus of the sympathetic system; alterations in the renal circulation, due to rhythmical contractions of the uterus; increase of the general arterial tension; a hydræmic state of the blood; and lately, the whole trouble has been ascribed to the presence of a bacillus.

A number of these claims are entitled to serious consideration, as is evident from the widespread notice they have attracted and discussions they have excited, and they are, so far as they go, correct. At least, that is my opinion, based upon a careful review of the literature on the subject, and a considerable personal experience with the malady.

The weight of opinion seems to favor, as a prime factor in the production of uræmia, mechanical pressure of the gravid uterus. Here, again, we have a variety of theories as to what organ, vessel or set of vessels is compressed. I think that by a wise combination of some of these theories we will have very nearly arrived at a correct solution of the problem.

In looking up statistics upon the subject, I find that in primiparæ eclampsia occurs much more frequently than in multiparæ. This fact has been generally ascribed to certain causes which are nearly always present in primiparæ, and seldom present in multiparæ—viz: inelastic abdominal walls, excessive coitus, clothing—that is, tight lacing—and I think, more correctly, to malpositions of the uterus. This latter factor, as a cause of abnormal pressure upon the great vessels of the lumbar region, was, I think, first pointed out by Dr. A. F. A. King. The credit of first calling attention to compression of the abdominal aorta and inferior vena cava is also due to Dr. King. (*A New Explanation of the Renal Troubles, Eclampsia, etc.*, 1887.) A reference to this paper will well repay the investigator.

Lusk says: "Convulsions occur more commonly in primiparæ than in multiparæ, especially in elderly primiparæ, in twin pregnancies, and in women with contracted pelves." It seems to me that this statement adds weight to the claim that pressure of the gravid uterus under certain conditions, as a factor in the production of uræmia, is entitled to a very prominent place.

From evidence obtained in post-mortem examinations by Lölem, it is reasonable to conclude that simple mechanical obstruction of the ureters is often a cause of acute uræmia.

When we remember that the maternal kidneys have to get rid of the urea excreted by the foetal kidneys, as well as that from the maternal economy, we have, I think, another factor toward the production of uræmia. That the foetal kidneys do excrete urine is shown by the testimony of several investigators, notably Henry Morris. (*Surgical Diseases of Kidneys.*)

In summing up the factors concerned in the production of uræmia, I believe first in importance is *pressure of the gravid uterus* upon the abdominal aorta, its primary branches and the inferior vena cava; second, *obstruction to the outflow of urine* is a fertile source of very acute cases of uræmia, principally those cases in which albuminuria has not been discovered up to the time of seizure; third, *the additional burden imposed upon the kidneys*, through their excretion of urea, from the fœtus. This last factor, although present in all pregnant women, is no less a predisposing cause of renal insufficiency.

Having sought, and as we think discovered, the true causes of puerperal eclampsia, a plan of treatment is the next consideration.

It is my opinion that in all obstetrical cases in which the physician is consulted, be it early or late in the period of pregnancy, if his slightest suspicion is aroused in regard to the action of the kidneys, he should lose no time in examining the urine. In fact, a number of high authorities insist upon examining the urine in *all* cases, and certainly it is better that we should take this precaution than that one unsuspected case should escape our notice. Should we discover albumin, prophylactic treatment is our first thought.

In this line, the very best effects have resulted from the enforcement of a strict milk diet. Of course, this rigorous treatment cannot be practiced in all cases. In those cases in which it is impossible, the diet should, at least, be restricted; in short, the same dietetic treatment is indicated as in true Bright's disease. The physician should see to it that no pressure results from the clothing, and in all cases corsets should be thrown aside. Where it is practicable, in cases of primiparæ, the medical adviser should explain to the husband the ill effects of excessive venery. As to medicinal treatment for prophylaxis, diuretics and saline cathartics hold the first place. Simple bi-tartrate of potash, or a mixture of the bi-tartrate of potash, and infusion of digitalis, make the most valuable diuretics that I know of for

these cases. The tincture of the chloride of iron should be kept up continuously and in generous doses. During the period of prophylactic treatment, special attention should be given to the stomach, and attacks of indigestion should be promptly dealt with.

If nervous symptoms develop, active measures should at once be resorted to. To relieve the severe cerebral symptoms which precede convulsions, and to ward off the convulsions, venesection is undoubtedly the surest and quickest means. I have also used, with good results, elaterium, croton oil and pilocarpine. Hypodermic injections of morphine, in conjunction with any of the above remedies, afford good results. Prof. Lusk recommends the administration per rectum of thirty grains each of chloral hydrate and bromide of potash. Inhalations of ether or of chloroform will often avert a threatened convulsion.

The question of prematurely emptying the uterus is still unsettled—authorities differing in opinion for and against it. I think that, in certain cases, it is undoubtedly justifiable; but my own practice in this respect is a conservative one, for I prefer, in the majority of cases, to “let nature take her course.” Labor is generally precipitated by the convulsions; the uterus emptying itself spontaneously.

CASE.—Mrs. D., primipara, aged 21, came to me for treatment near the end of the second month of pregnancy. At this time, there was slight œdema of the feet and ankles. Examination of the urine showed the presence of a very small quantity of albumin. Bi-tartrate of potash was ordered; also, tincture of iron in ten-drop doses four times daily.

The urine was examined once a month up to the seventh month; after that, it was examined once a week. Albumin was constantly present, and in increasing quantities—and, at the last examination, on June 2nd, 1889, two days before the seizure, there was about seventy-five per cent. by bulk.

About March 1st, the diet was restricted, and infusion of digitalis and bi-tartrate of potash ordered. Up to this time—about the middle of pregnancy—patient had considerable gastric irritation, nausea, and vomiting. The administra-

tion of the bi-tartrate and digitalis had a very beneficial effect; but after about three weeks of this treatment, the stomach again became irritable and would not retain the medicine.

On the morning of June 4th, I was hastily summoned to attend the patient. I found her in an unconscious state, and breathing stertorously. I was told that during the greater part of the twenty-four hours preceding the seizure she had suffered intensely with headache of a most severe type, and had complained of defective hearing and vision, "black and yellow spots before her eyes." As a consequence of these nervous derangements, she had slept little during the past two nights. About eight o'clock on the morning in question, while preparing to take some nourishment, she was suddenly seized with a severe convulsion, which lasted some minutes.

I immediately administered a hypodermic of a quarter grain of morphia. Upon digital examination, I found that the os would not admit the tip of the finger. Later, I discovered that the child was still alive. Just after the examination, the patient was seized with a second violent convulsion. The seizure began with muscular twitching about the mouth and eye-lids. The mouth opened, and the tongue protruded; the eyes became fixed and staring, with pupils widely dilated. Then the whole body became fixed and rigid; the skin was moist and clammy. Notwithstanding all efforts to gag the patient, the teeth partly closed upon the protruding tongue. This condition seemed to last from one to two minutes, and gradually the spasm relaxed, the mouth opened, and froth and blood oozed out; the breathing became stertorous, and the patient passed into a deep stupor.

A second quarter grain of morphia was administered, and it was then agreed that a consultation should be held; accordingly, Dr. G. W. Johnson was called in. Before he could respond to the call, the patient had a third convulsion, and a third quarter grain of morphia was administered.

As a result of the consultation, it was agreed to first attempt to relieve the overburdened kidneys by the administration of pilocarpine. After the administration of two doses of one-eighth grain each, free diaphoresis was established. There were, in all, eight convulsions before relief was obtained.

The next morning, June 5th, examination showed slight

dilatation of the os. When next examined, shortly after noon, the os had dilated to the size of a dollar. At 2 P. M. I delivered, without forceps, a dead female child weighing about seven pounds. Labor was perfectly normal in every respect. The catheter was passed, and the urine drawn off; it was found to be nearly solid with albumin. Before leaving, I administered a quarter grain of morphia, and directed the administration of a second quarter grain if there appeared to be any indications of a return of the convulsions.

On the following day, the patient had two severe convulsions; one in the morning and one in the afternoon. After the second paroxysm, elaterium was administered in one-sixth grain doses every half hour. After the third dose free action of the bowels was obtained—the stools being wholly fluid and very offensive. After this there were no more convulsions, and the patient gradually improved.

During the three months following confinement, examinations of the urine showed the presence of albumin in decreasing quantities. (Edema lasted nearly six months after delivery.

One year after this confinement, patient had a three months' miscarriage, and recovered without complications.

In Sept., 1891, a little over two years after the first confinement, the patient again became pregnant. I watched the progress of the case closely, and made frequent examinations of the urine. The first four months were passed without the appearance of albumin in the urine, and with only a slight œdema. From this time (end of the fourth month), albumin was present in increasing quantities. Patient was now put upon a diet consisting principally of milk, although the white meat of fowls, fish, shell-fish, fruits, and green vegetables, were allowed. Medicinal treatment was confined to the frequent administration of saline cathartics and bi-tartrate of potash. This simple treatment was pursued up to March 28th (about the end of the seventh month).

At this time there was about twenty per cent. by bulk of albumin in the urine, and considerable swelling of the feet and ankles with œdema of the eye-lids. Patient complained frequently of nausea. On March 28th, the patient was seized with severe vomiting, and could retain neither food nor medicine. After several ineffectual attempts to allay the sick stomach, cracked ice was given and had the desired ef-

fect. The urine was scant, high colored, and contained about one quarter of albumin,

Next day patient appeared much better and was able to retain food. In the afternoon, compound jalap powder was administered, but was vomited soon after. Later, fifteen grains each of hydrate of chloral and bromide of potash were given, and the patient slept easily for about two hours. A second dose of chloral and bromide was administered, but was rejected.

On the following morning, patient was seized with a violent headache, which she described as exactly like that which preceded her first confinement. Elaterium was administered in one-sixth grain doses, one hour apart. Half an hour after the administration of the second dose profuse watery catharsis set in. There were six larger, watery stools. After this the headache gradually subsided, and the patient slept lightly for about three hours.

About midnight she began to have slight pains, which continued and increased in severity. Upon examination next morning, the os was found dilated enough to admit the finger. Labor progressed normally, and at 11 A. M. patient was delivered of a live male child, weighing not over five pounds. Placenta followed spontaneously. A hypodermic of a quarter grain of morphia was then administered. Next day the catheter was passed, and about a pint of urine was drawn off—a specimen of which was examined and found to contain about one-third of albumin.

Subsequently the patient had a rather slow recovery, albumin appearing in the urine for some months after delivery.

511 East Capitol Street.

ART. IV.—Twenty Years' Experience with Tincture of Veratrum Viride in the Treatment of Puerperal Convulsions.

By **RALPH DAVIS, M. D.**, of Montevallo, Ala.

Having noticed, within the last six or eight years, several articles on puerperal convulsions, in which it was claimed that the tincture of veratrum viride had played an important part as a remedy, yet not having noticed a single article in which the virtues of the medicine were sufficiently

emphasized to give it the importance to which it is entitled, I have decided to give the benefit of my actual experience with it as an antispasmodic. I do not write with a view of receiving credit for having discovered anything new in regard to the action of the drug, but because I have never *seen* an article in which the author gave the medicine due credit for its remedial potency when *properly* administered.

I have been engaged in the practice of medicine thirty-five years. Although I have not kept a record of all cases treated, I yet feel perfectly safe in stating that I have treated at least twenty-five cases of puerperal convulsions within the last twenty years. And when I remember that I have relied on veratrum alone as the remedy, coupled with the fact that I have not lost a single case since I have adopted that plan of treatment, I feel that I am prepared to show that the medicine has not, as yet, received the credit to which it is entitled as an antispasmodic.

During a meeting of the Bibb County (Ala.) Medical Society, of which I was a member, in 1873, Dr. J. W. Crawford (probably remembered by some of the older members of the profession in this State as the operator in the fifth case of Cæsarean section performed in Alabama, 1853—a report of which can be seen in the *Transactions* of the Medical Association of the State of Alabama, 1854), while discussing the medical properties of veratrum, remarks that he had arrived at the conclusion that the medicine possessed antispasmodic properties, and assigned a reason that infantile convulsions always subsided, or became lighter and less frequent after he had administered it, as he had often done, in high grades of fever, which were accompanied with convulsions. My esteemed friend, now of Camden, Ala., Dr. L. E. Starr, remarked that he thought that spasm ceased in such cases because veratrum caused a lowering of temperature (a theory which I was quite ready to accept). But Dr. Crawford contended that he had noticed, upon several occasions, that convulsions had ceased altogether after the administration of veratrum, and before there had occurred

any perceptible lowering of temperature. Knowing him to be a close observer of large experience, and of undoubted integrity, I was impressed by his remarks, although I doubted the correctness of his conclusion.

On the following day, we were both hastily summoned to see Mrs. L., who was having hard "fits." Arriving at the house at 3 P. M., we found that the woman—primipara—was six months advanced in pregnancy. She had received a fall about 10 A. M. on the previous day. She was having a paroxysm when we reached the house, which we were informed was the fifth one. I remarked to Dr. Crawford that if veratrum would control one form of convulsion, there was no reason why it should not control another form. He replied that he would like to test its merits in that particular case. The suggestion met with my approval, and we administered ten drops of the tincture. The patient had only three convulsions after we commenced treatment; after each one of which we administered fifteen drops of veratrum as soon as she would recover from stupor sufficiently to be able to swallow it. The paroxysms grew lighter, and the interval between them grew longer, until they ceased. The woman gave birth to a six months dead fœtus during the night, and made a good recovery. The depression following the administration of the veratrum in this case caused some nausea, which was relieved by thirty drops of laudanum.

Now, this case did not convince me that veratrum was a potent remedy in the treatment of convulsions, for I had known cases of puerperal convulsions to recover without any kind of treatment, but I was sufficiently impressed with the action of the medicine in the case to decide to give it a further trial; and while thinking about the matter, I decided to try a plan which I have never had cause to regret. As I had an opportunity to give the plan a trial within a few days, I will give the plan chosen in reporting a case. (I will not mention any of the cases I treated between the years 1873 and 1883, simply because I have no systematic record of them, although I treated a good many, and, as already stated, I have relied alone upon veratrum as the remedy.)

About 4 P. M., August 1st, 1873, I was called to S. D.,

colored, eighth confinement. The midwife informed me that she commenced having labor-pains early during the previous night; that she commenced to "bear down" before day, and she thought it would be "all over with soon." but the pain "stopped" about "sunrise," and that she had no more pain; but about 11 A. M. she had a hard "fit," and "had been having them ever since." She had had a paroxysm a short time before my arrival, and as she could swallow a fluid, I gave her twenty-five drops of tincture of veratrum. I made digital examination—found vertex presentation—head pressing on the perineum—all pointing to a speedy delivery. I could see that she was sensible to uterine action by her movements and the expression of her countenance. After watching her until 5 o'clock, I asked the midwife if it was not about time for her to have a "spell." She answered, "O yes, sir; she would have had two spells before now hadn't it been for the medicine." At 5.15 she was delivered of a large male child, which was followed by another convulsion, which, the midwife said, was not as hard, nor as long, as the others. Twenty minutes elapsed before she could be induced to swallow, when I gave her another twenty-five drop dose of veratrum, and delivered the placenta. The treatment was followed by some nausea, which readily yielded to the administration of a stimulant. The woman was not fully rational before the following day, but made a good recovery.

Now, my object in writing this article being simply to show that *veratrum viride* will arrest puerperal convulsions, I will proceed to report the cases selected for that purpose.

My early experience with *veratrum viride* in the treatment of convulsions convinced me that the proper manner in which to use it was to administer it in sufficient size doses to impress the system at once, for the double reason that we could the sooner control the paroxysms in the first place, and, in the second place, I early learned that the nausea which so often follows its use depends more upon the length of time a patient is kept under the influence of the medicine than upon the amount given at any one time; and this has been the result of my experience in the treatment of all diseases in which I have used it. I have also found that it requires less medicine to control a case when it is admin-

istered hypodermically, but I never give less than twenty-five drops hypodermically in commencing the treatment of any case.

CASE I.—February 15th, 1883.—I was called to see M. F.—primipara—six months advanced; threatened abortions. Pain commenced at 6 A. M., accompanied by slight hæmorrhage, which continued until 10 A. M., at which time she began to complain of pain in her head, with “roaring”—dimness of vision. All of these troubles increased until mid-day, when she was seized with a convulsion. I arrived at 3 P. M., and found the patient in a stupor, and was informed that she had had three convulsions. I administered twenty-five drops of tincture of veratrum viride hypodermically; made vaginal examination, found the os dilating, and made no effort to check labor. Consciousness returned in twenty minutes. All conditions being favorable to speedy delivery, I gave nature the necessary assistance to insure such an event, and a six months’ fetus was delivered at 3.30 P. M. The woman went to sleep; and I was not surprised when she awoke, a few minutes afterwards, manifesting symptoms of returning convulsion. She was seized with a convulsion before I could do anything to prevent it. The convulsion was much lighter, however, than the preceding one. I repeated the hypodermic injection of veratrum as soon as I could do so after the paroxysm ceased; delivered the placenta, and the woman was conscious within thirty minutes after a short stage of stupor, and she had no more convulsions. She made a good recovery. No nausea.

CASE II.—June 4th, 2 P. M., 1888.—Was called to A. F., colored, who was the mother of eight children. Labor commenced in the early part of preceding night. The midwife performed the functions of her office in the usual manner, and the woman gave birth to a well-developed live girl at 10 A. M. The placenta came away in due time.

The history of the case from delivery of placenta until my arrival—using the midwife’s precise language—was as follows: “After de after-birth come, everything done mighty fine, but the belly wouldn’t go down. Then a hard shaky spell come on her, and she shake like she would leave the bed. Then she go sound to sleep, and snore so loud they hear her way out to the well. And when she wake up, she shake till she go sound asleep agin; and she been doin’ that way all the time until you get here.” She also directed my attention to a large pool of blood on the floor, which had

passed through a cotton bed. As a paroxysm had passed off only a few minutes before I entered the room, I hastily administered twenty-five drops of veratrum hypodermically and proceeded to make digital examination to ascertain the cause of the distended belly and hæmorrhage. I was horrified to find the left shoulder of another child.

Now, here was a dilemma. A woman who had already had six or eight convulsions threatened with fatal hæmorrhage; with an unborn child that could only be delivered by version. I did not want to give chloroform, on account of existing hæmorrhage; and taking into consideration the fact that the convulsion had produced insensibility, and that the passage of the first child had prepared the soft parts for the passage of the second, I decided to turn and deliver at once.

I introduced my hand, seized a knee, the first salient point that my hand encountered, and made the "turn." The womb contracted, and the child was delivered at once. The child was alive and *noisy*.

Before I could sever the cord and remove the placenta the woman was seized with another convulsion, after which I administered twenty-five drops of tincture of veratrum and delivered the placenta. The hæmorrhage ceased. Two hours after delivering the placenta, the woman had another light spasm, after which I gave her twenty-five drops more of veratrum. She had no further trouble. The veratrum produced very little nausea, although it required seventy-five drops to control the convulsions. The woman was rational within twelve hours, and made a good recovery, although it was not an uneventful one.

This case was the most interesting one that I ever saw, but anything like a full report of it would be entirely too lengthy to make in connection with other cases; and I will probably use it in the near future in an article on the therapy of veratrum, as I have *found* it to be.

I could report several more cases, but as my article is longer than I intended it should be, and the treatment has been about the same in all my cases, I will pass over another period of a few years, and report the last case I treated.

CASE III.—On January 14th, 4 P. M., 1894, was called to H. N., aged 20, and single, whom I found in bed and complaining of severe pain in her head. Although she lived only a few hundred yards from my residence, I knew nothing about her “present or previous condition.” Her mother informed me that at or about 9 A. M., while her daughter was occupying a chair near the fire, she complained of imperfect vision, roaring in her ears, and pain in her head. A few minutes after making her indisposition known, she suddenly threw up her hands, which movement was accompanied by a strange sound in her throat, which she supposed to be caused by an effort to speak, and that she immediately fell over on the floor; and judging from the description of her manœuvres, as given me by her mother, I concluded that she had executed the latest approved evolutions of modern convulsions. After calling in help, she succeeded in placing her on a bed, and she stated that she had had at least a half dozen spells before my arrival.

The patient was rational when I arrived; and as her most prominent symptoms and *general* appearance was such as to necessitate a digital examination as diagnostic aid, I modestly imparted the fact to the patient and her mother, and created quite a scene. The girl could not find suitable language to express the indignation that she felt on account of such a proposition; and the mother was agonized to find that I doubted the chastity of a young lady whose character was unimpeached and unimpeachable. Being fully satisfied with my diagnosis as far as I had proceeded with it, I respectfully requested to be allowed to decline the management of the case; but as I saw unmistakable symptoms of returning convulsion, I hastily prepared to combat it, but the woman was seized with as hard a paroxysm as I have ever seen before I could administer chloroform, with which I have often held convulsions in check until I could inject the veratrum.

During the stage of stupor which followed the convulsion I succeeded in convincing the mother that “’Tis not all gold that glitters;” and in comforting her to some extent, by reminding her of the fact that she was not the only fond mother who had been deceived by an artful and erring daughter; and she very readily gave me permission to manage the case as I saw proper.

I had already administered thirty drops of veratrum. I made digital examination as soon as the mother gave her consent, and found a well-dilated os, and could easily feel

the vertex through the membrane. I ruptured the membrane at once, and kept the patient under the influence of chloroform until the birth of her child, which occurred in about one hour. She had one more paroxysm after delivery of placenta, which I followed with twenty-five drops of veratrum, which controlled the convulsions. The veratrum caused no nausea whatever.

My object in writing, as stated elsewhere, is to show that veratrum viride will control puerperal convulsions, when administered in large doses, and that it is perfectly safe to administer it in sufficient quantities to control any case of convulsions; and I have reported a few cases to prove that my remarks are not based only upon a theory, but actual experience.

In conclusion, I will state, that I have used tincture of veratrum viride successfully in the treatment of every form of convulsion, except traumatic tetanic convulsions, and I will not hesitate to use it, in conjunction with other remedies, in such a case, whenever I have an opportunity, with the hope of giving relief.

I only claim to have enlarged upon an idea, for which I am indebted to another. I claim to have used veratrum viride in larger doses than it was generally known that it could be used, at the time I commenced to use it in the treatment of convulsions. I had never seen it recommended in such quantities, and hence used it on my own responsibility. My experience with it has convinced me that it is both safe and efficient in the treatment of convulsions, and if I ever learn that this article has been the means of preventing a single paroxysm of convulsions, or in lessening the dreadful anxiety that the most of us have felt when called to treat a case of puerperal convulsions, I will be amply repaid for the trouble of writing it.

In the Gastric Catarrh of Drunkards,

R̄. Antikamnia and Quinine Tablets, āā grs. v. Num. 24.

Sig.: One every two or three hours.

ART. V.—Foreign Bodies in the Upper Air-Passages.*

By JOHNSON ELIOT, M. D., of Washington, D. C.

It is astonishing the number and variety of articles, bones, shell, toys, etc., we find in the throat. Under ordinary circumstances, foreign bodies in the upper air-passages are arrested in well-recognized localities, where their inspection and removal are matters of little moment. Among these places may be mentioned the pyriform sinus or fossa, situated laterally to the larynx and the sulcus, between the tongue and epiglottis. In these places we generally find the foreign substance. Usually no trouble is encountered, but an epiglottis which lies close to the tongue, or has a wide rolling crest, may have to be forced back before a clear view is obtained.

When lodged in the larynx, the body is easy of recognition by reflected light—arresting spasm by chloroform; a solution of cocaine hydrochlorate is also useful. In some cases, a view is obtained of the trachea to its bifurcation, and in one of my cases a considerable portion of the right bronchus was seen. The recesses about the palatine folds, the post-nasal fossa, and the tonsils, also afford places of lodgment of foreign bodies, but here, with manipulation, they are easily seen.

There is scarcely a point in the throat or nose which cannot be viewed, and any adventitious substance removed. Many persons state they feel the point of a pin, or whatever has been swallowed, where examination proves negative, other than to show a scratch caused by the passing body. In healing, the sensation experienced by the contraction of the cicatrix is often referred to as the presence of the body itself. It is not my intention to refer in this short article to cases which involved great danger, or where tracheotomy or kindred operations were indicated, but to record three cases of interest to me; neither do I intend to refer to cases where the diagnosis was easily made.

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, January 8th, 1894.

Miss T. complained of dysphagia, which came on suddenly whilst eating fish; had no cough, and the voice was clear and strong, but accompanied by pain referred to the cricoid cartilage. Examination absolutely negative; there was not the slightest spot of congestion or irritation in the fauces or on the tonsils, which were searched carefully. She was directed to gargle repeatedly with warm water. On the second day, on examining, my probe came in contact with a hard substance deep in a lacuna of the tonsil; this proved to be the larger end of the bone, which, when removed, was about three-eighths of an inch in length. In neither of the examinations was any part of the bone visible.

Mrs. B. was taken with a violent coughing spell, caused by swallowing a fish bone; seen a few hours afterwards; considerable pain recurring at times, but was not constant; swallowing did not increase this, and the voice was very slightly affected. Examination showed a cicatrix on the laryngeal surface of the epiglottis; other than this, there was nothing abnormal, and certainly no bone to be seen in the larynx. She was given a sedative gargle. This was Friday; the pain and other symptoms disappeared. On the following Monday, on coughing, the pain was again felt; there was now a faint line of suppuration on the left anterior palatine fold. On incising this, nothing foreign was found, and warm gargles were ordered. No further trouble was experienced until Thursday night, when, during a paroxysm of cough, a fish bone of fully half an inch was ejected. Where this bone lodged I do not know, as it was not visible in the upper or lower pharynx.

These two cases are illustrative of how bodies may be concealed in the air-passages, and, for a time, the diagnosis be in doubt.

In inquiry is suggested in many cases of foreign substances lodged in this region, the patients have taken freely of bread, potatoes and substances forming a large bolus—Should a sharp point be presented? I believe the use of such means will force the body into the tissues. In the recited cases this was done. The bone, in the first case, was driven into the tonsil like a nail, and in the second, it must have been forced into the palatine fold, near where the suppuration was found.

My third case was amusing; it was referred to by Dr. L.

Eliot. The patient complained of an indefinite feeling in the throat, not painful nor causing other symptoms. Examination showed the post-nasal fossa filled with what was thought to be mucous, as he had an aggravated catarrh; this, when removed by a spray, proved to be a curd of milk. We then obtained the history of his having taken a seidlitz powder followed by a draught of milk. Emesis set in, and this curd was lodged back of the palate. I recite this on account of the similarity in gross appearance of the curd to the secretion of post-nasal catarrh.

The cases show that not always, where bodies are arrested, do we have the typical symptoms so accurately described by authorities, as dysphagia, aphonia, a cyanosed condition, but that bodies may be not only retained, but buried in the tissues for some days, without causing special inconvenience, and the diagnosis, for a time, be a matter of doubt or conjecture.

1417 *N Street, N. W.*

ART. VI.—Tubercular Osteitis of Hip-Joint, with an Analysis of 158 Cases Illustrating its Three Stages.

By A. R. SHANDS, M. D., of Washington, D. C.

The cases forming the basis of this report were under the immediate observation of the writer during his term of service as interne in the Hospital for Ruptured and Crippled, New York city; and as a careful record of the history of each case was kept, the results are reliable; hence, it is hoped that the report may prove interesting and instructive, at least, to some of his professional brethren who have not had an opportunity of seeing this disease treated on so wholesale a scale as it is done in one of the largest orthopædic hospitals in the world. In using the term "tubercular osteitis of the hip-joint," it is regarded as synonymous with "hip disease," the more common term, and the one that will be used.

Pathology.—It is generally acknowledged by the leading orthopædic surgeons that hip disease follows, espe-

cially in children, a distinct type, which is to-day classed as a degenerative tubercular osteitis. It presents itself in whatever joint it appears in much the same form, affecting the spongy tissue of the epiphyses, most often near the line of junction with the shaft. It may begin as a single or multiple focus of tubercular degeneration. Later in the history of the affection, the nodule breaks down into pus; generally, the original focus is surrounded by smaller tubercles, which aid in its extension, but the chief mischief is done by the rarefying osteitis. At this stage of the diseased process the focus may be absorbed, and so cured; it may extend to the periphery of the bone and break through and empty itself there; or it may extend into the joint, by far most common, and infect that. When the diseased focus is not absorbed, the most favorable course is for it to break through the periosteum and discharge into the periarticular structures. Volkman has shown that this is not uncommon; and when it does occur, the course of the disease is short. It is a well-recognized fact that the inflammatory action begins in the joint some time after the disease breaks into it. Lannelongue reported, in 1886, a case of early hip disease, in which the autopsy showed a caseous focus the size of a pea, found in the epiphysis, two millimetres from the cartilage, and did not, in any way, communicate with the joint. Although there was no effusion in the joint, the capsule was thickened, the synovial membrane in parts reddened and fungous, and the round ligament already vascular and softened. The cartilage was, in certain parts, thinner, and losing its elasticity. Volkman has also reported a case in which autopsy showed the same state of things.

Bradford and Lovett, in their most excellent book on orthopædic surgery, say that it appears that the joint is involved and inflamed, in the first place, by contiguity rather than by direct infection; and, by inflammation and the softening of the cartilage over the diseased spot of bone, it is rendered the more ready for the direct invasion of the pus and caseous material from the primary focus. As soon as the joint

is invaded by the pus, then at once a purulent synovitis is set up, which speedily becomes destructive. There seems to be but little doubt but that the diseased process begins in the blood-vessels in the cancellous structure of the bones; a capillary of a Haversian canal becomes blocked up with the bacilli, and then there sets up a tubercular enarteritis (König, Müller, and others). From this process, the extensiveness of which varies according to extent of bone involved in the primary focus, or foci, is developed yellowish pus, which is seen in spots, ultimately extending until the whole affair assumes the aspect of a true purulent osteomyelitis.

The production of tuberculosis by inoculation has been proven beyond all reasonable doubt. Pfeiffer has reported the case of a veterinary surgeon, of good antecedents and sound health, who punctured the joint of his thumb while he was dissecting a tubercular cow; a tubercular synovitis set up, and he died in a year and a half of phthisis. The thumb-joint showed typical tubercular structures, in which bacilli abounded. Müller produced in goats typical focal tuberculous disease of the ends of bone. In support of the evidence of the tubercular theory of hip-disease, the reader is referred to writings of Koch, Müller, Roswell Park, Reuben, Bilroth, and others. Grosch's extensive statistics show that tuberculosis is by far the most common cause of death in hip-disease, nor does resection of the joint seem to relieve the liability very much. König has reported 117 resections for this disease with 25 deaths, 18 of which were due to general tuberculosis, and 9 more hopelessly tuberculous. He has called attention to the danger of "*operative tubercular infection*;" he thinks that there is danger of increasing the absorption of the tubercular material by opening the lymphatic and blood-channels in the operation.

In support of the theory that hip-disease most commonly begins as an osteitis, Müller and König found, at autopsy, in 61 cases, that 47 presented the initial lesion in the bone, 3 of synovial origin, and 11 indefinite. Volkman asserts

that in children it always begins in the bone. The inherited tubercular tendency to hip-disease is very strongly supported by statistics. Dr. Gibney, of New York, has reported 596 cases of different tubercular joint-disease (*N. Y. Med. Journal*, July, 1877), in which he found a tubercular disease, in one or both parents, in 68 per cent., and an "acquired diathesis," in 30 per cent. more. The percentage of heredity is variously claimed from this to 33 per cent. There is vast difference of opinion as to traumatism as an etiological factor in hip-disease. Dr. Gibney observed 845 cases of spinal paralysis in children, a class of children that would naturally be subject to constant falls and injuries, and found only 4 complicated with joint-disease. Roser has reported 100 cases of fractured elbows in children, with no tubercular disease to follow. Dr. Shaffer, of New York, says: "Experience proves that traumatism excites only acute disease as a rule." The exanthemata, especially measles and scarlet fever, are recognized as prominent etiological factors in the production of the "acquired diathesis" to tubercular hip-disease.

Hip-disease is pre-eminently a disease of childhood. Gibney has reported 860 cases, in which $84\frac{1}{2}$ per cent. of the cases occurred before the fourteenth year. The fact that it is confined mostly to childhood, is accounted for by the fact that as it occurs chiefly in the epiphyses is because, at this period, the cancellous bony structures are in their greatest activity, blood-supply the largest, and its tissue changes most rapid. While in children the disease begins most often as an osteitis, in adults it usually begins as a synovitis. Dr. Gibney speaks, in his book on "Diseases of the Hip," of a case of double hip-disease, in which an early autopsy showed that on one side the focus of disease was in head of femur, while on the other side it was in the acetabulum. In the majority of cases, the disease begins in the head of the femur, but many begin in the acetabulum; in others, the acetabulum becomes involved during the process of the disease, and often is perforated.

When a *spontaneous cure* does occur, it takes place either by absorption, or calcification of the tuberculous tissue, or by degeneration and its evacuation through an external opening. An anchylosed joint is usually a result of one of nature's cures, which is the result of two granular bony surfaces being in contact; union at first is a fibrous one, which, later on, ossifies as a result of a deposit of the lime salts. Sometimes, in formation of this bony union, a cheesy mass is included, and to this cause can be attributed many of the relapses of hip-disease: it should be a contra-indication to anything but the gentlest manipulation and greatest care in correcting the deformities in late stages of the disease.

Diagnosis.—As matter of convenience, hip-disease is divided into three stages, which, however, cannot be clearly defined, as steps from one stage to the other are usually very gradual.

First stage is the *stage of osteitis*, when we have lameness, limitation of motion, and some deformity. Pain is not always present in the early part of first stage, and when present, is usually referred to the knee. It is a very common sight to see a patient, when undergoing the preliminary examination on admission to hospital, grasp his knee with both hands, having learned that pressure there will relieve the pain, and at the same time, by traction, overcome some of the spasm about the hip. The reflex muscular spasm begins early, and continues throughout the entire course of the disease. Atrophy is now present, which is progressive. "Night cries" are seen at this stage, caused by crowding of the hyperæmic joint surfaces together from the reflex muscular spasm.

The second stage begins with the *perforation* of the disease either into the joint or periarticular structures. The advent of the second stage is often so gradual that your attention is first attracted by an abscess almost ready to break through the capsule. This is a stage of well-marked deformity; patient will bear his entire weight on the sound limb,

while the diseased limb will hang in flexion and outward rotation; apparent lengthening or shortening, caused by tilting of the pelvis, will now be seen. Atrophy is more prominent than in first stage. Sir James Paget says that it is a reflex atrophy, and due to the disturbance of some nutritive nerve-centre irritated by the painful state of the sensitive nerve-fibre. There will also be a marked diminution to the faradic contraction in the atrophied muscles. During this stage the complications arise—such as amyloid degeneration, general tubercular infection, etc.

The establishment of the third stage is no more clearly defined than the second. This is the stage of bony changes when we have pathological shortening and deformity, due to destruction of bone. This is the stage of relapse.

There is no disease in the whole range of orthopædic surgery, in which an early diagnosis is more important than in hip-disease, both for the welfare of the child and for the satisfaction of the parents or friends. A very common error in diagnosis is to think that pain must be present; as a rule, it is absent in the early stage in the majority of cases. Another common error is to expect to get “grating” in the joint; this can only be had in an advanced stage; it is of no diagnostic value, and would require much roughness on the part of the examiner to produce it without the use of an anæsthetic.

The diagnostic symptoms to be borne in mind are—(1.) Muscular spasm. (2.) Lameness. (3.) Position of limb. (4.) Atrophy. And (5.) Pain and swelling. The first three are most important and in order named, and should enable you, in the majority of cases at least, to make a correct diagnosis. Lameness is usually the first thing to attract attention; upon examination, there will be found a limitation of motion, which is only due to the tonic contraction of the muscles about the joint. Great care has to be exercised in examining children for this limitation of motion, lest, by frightening them, you defeat the object in view. Have all of the clothes below the hips removed, and begin by carry-

ing the well limb through all of its normal movements for the sake of comparison and to gain the confidence of the child. With child on his back on a table, grasp knee with one hand and pelvis with the other, to detect when limb stops and the pelvis moves. Flexion, extension, abduction, and outward rotation, are now to be tested and compared with the well leg. In extension, when the popliteal space is brought on the table, arching of the lumbar spine (lordosis) will be produced if there is any spasm of the iliacus and psoas muscles present. Limitation of abduction and adduction can be obtained by placing one hand on the anterior superior spine of ilium on the well side; with other hand abduct and adduct the diseased limb, and as soon as limit of motion is reached, the pelvis will move with the limb. The limitation of rotation is detected by flexing the limb on the abdomen, then rotate the femur, and at same time abduct the limb; this is not so easily detected as other motions, but with practice it can be done.

Lameness may be intermittent, but when present is characteristic, so much so that Dr. Gibney, in his book on "Diseases of the Hip," spoke of it as the "hip-limp." Swelling above joint is not usually present in early stage without the course of the disease has been very rapid. An early diagnosis should be easily made by any one who will thoroughly familiarize himself with the functions of a healthy joint.

Occasionally lumbar Potts' will offer some difficulty in differential diagnosis by causing some limitation of motion about hip due to spasm of psoas and iliacus muscles caused by the presence of a psoas abscess; hip-joint, under these circumstances, will be a little sensitive to manipulations. In Potts' disease of the lumbar spine, the limitation of motion will be in extension only.

A differential diagnosis between acute synovitis and an osteitis of hip is not practicable in the earliest stage. The history of the case will be the most reliable guide; synovitis comes only suddenly, and usually after a fall or injury

of some kind. Pain and swelling in synovitis will be prominent from the beginning; not so in osteitis.

Occasionally anterior poliomyelitis may offer some difficulty. Here the galvanic current will be a most reliable test, for in anterior poliomyelitis you will get the re-action of degeneration.

Rheumatism, neurosis of hip, congenital dislocation, perinephritis, and peri-typhlitis, offer some difficulty occasionally in the diagnosis of hip-disease; but with the hints here given, with a little experience, one should be able to make a correct diagnosis in the large majority of cases.

Prognosis.—The large majority of cases of hip-disease, under favorable circumstances, tend to recover with more or less deformity; hence it becomes the duty of the surgeon to see that chances of recovery are as favorable as possible, to use the best means of preventing the deformity, and, at the same time, to get the most useful limb. To better illustrate the prognosis, the report of the cases referred to at the beginning of this paper will be given here.

I find, by the reports of the Hospital for Ruptured and Crippled, that during my term of service there were 289 *new* cases of hip-disease treated; of this number, 177 cases were admitted to the wards; remaining 112 were treated at the out-door department. Only those cases are admitted to the wards that require more radical treatment than can be given in the dispensary; such cases as have developed abscesses, or are taken in for correction of deformity, only a very few being taken in during the early stage, and then only those whose parents are totally unable to give them decent care at home. Of the 177 cases, 19 were cases of double hip-disease, and will not be included in this analysis, but will be reported later. This leaves 158 cases to analyze.

Age when Disease Developed.—Ten developed the disease before they were 2 years old; 70 before 4th year; 46 before 6th year; 19 before 8th year; 11 before 10th year, and 2 before 12th year. Average age, about $5\frac{1}{2}$ years.

Of the 158 cases, 69 have never had an abscess. Present duration of disease in these is as follows: Eight for 1 year; 16 for 2 years; 20 for 3 years; 10 for 4 years; 3 for 5 years; 5 for 6 years; 4 for 7 years; 1 for 8 years; 1 for 10 years; and 1 for 11 years. Sixty-one of this class were admitted for correction of deformity, which was done as follows: Thirty-five were corrected with weight and pulley on an inclined plane, with counter-traction on the perineum; 12 had femoral osteotomy (Gant's operation), tenotomy and fasciotomy; 14 were corrected under ether by means of tenotomy and gentle manual force. The 8 cases of one year's duration are being treated conservatively.

The average duration of the disease in the Gant cases was $5\frac{1}{2}$ years, and the average amount of flexion deformity was A. G. E. 130° (angle of greatest extension). The results of these cases were excellent with one exception. This was a case of a boy 9 years old, who had developed hip-disease seven years previously; he never had an abscess, nor had he had any acute symptoms for four years. On admission, his limb was fixed by apparently bony ankylosis at A. G. E. 110° ; had 10° of adduction, with trochanter major one inch above Nelaton's line.

Gant's femoral osteotomy was attempted. After the osteotome was withdrawn, the manual force used to complete the intended fracture failed in its intentions, but succeeded in breaking up the bony adhesions with the ilium, enabling the limb to be easily brought into good position. Patient was treated conservatively by means of plaster of Paris spica; but in spite of the greatest possible care, two months later a huge abscess developed over the hip-joint. After repeated aspirations, the abscess was incised. The wound suppurated profusely for six months, when it began to improve. Twelve months after the operation, patient is doing well; prognosis favorable.

Of 158 cases, 89 ($56\frac{1}{2}$ per cent.) had abscess; 15 died, which is a mortality of $9\frac{1}{2}$ per cent.; cause of death as follows: Five from tubercular meningitis; 4 from general tu-

berculosis; 2 from amyloid changes; 2 from exhaustion from prolonged suppuration; 1 from tubercular peritonitis; 1 from shock (excision).

Fifty-seven of abscess cases were treated by repeated aspiration, of which 20 (35 per cent.) were cured, and 2 died from tubercular meningitis; 35 were repeatedly aspirated, but later either opened spontaneously or had to be incised; 25 of this class were cured; 4 improved; 4 prognosis very unfavorable, and 2 died.

Of 89 abscess cases, 32 were excised with the following result: Nine (9) (28 per cent.) were cured; 5 improved; 7 prognosis unfavorable; 11 died.

Twenty-seven of the abscess cases were re-admissions who were taken in for correction of deformity, their abscess having been treated several years previously. Fifteen were corrected by weight and pulley on an inclined plane; 9 had Gant's femoral osteotomy; 3 were corrected under ether by tenotomy and manual force. In 7 of the abscess cases, the abscess appeared within three months after efforts to correct deformity under ether by tenotomy and manual force; there was no serious trouble to follow in but one, which was given in detail above.

It is a fact worthy of note, that the length of time intervening between initial symptoms and the appearance of the abscess in these cases is much greater in the fatal and unfavorable cases than in those that made good recoveries, or in which the prognosis is good—length of time in former class averaging two and one-third years, while in the latter class less than one year.

These statistics may not appear as encouraging from a prognostic point of view as many others that have been recorded, but it must be taken into consideration that the majority of the children admitted to wards of this Hospital come from the tenement houses of New York and from a class of people that enjoy but few of the good things of this life.

As to the matter of functional results, nothing reliable can

be obtained from these cases, for a sufficient length of time has not elapsed. The surgeon who boasts of good functional results in hip disease, should not report his cases until six or eight years have elapsed after discontinuing the treatment. Under a conservative treatment faithfully carried out for a sufficient length of time, one may expect to get good functional results in the majority of cases. Surgical attention should not be limited to acute stages, but continued through the entire convalescence if best results are desired. No rule as to length of time can be given, but the joint should be protected against trauma just as long as the surgeon thinks there is danger of relapse.

Treatment.—Volumes have been written on the subject of treatment of hip disease, for nearly every surgeon has some method or theory of his own. Only a few practical points in the treatment will be given here.

The indications are to furnish fixation, extension and protection; to benefit the patient's health in every possible way; to prevent and correct deformity, and to meet such complications as may arise.

Fixation is indicated in the earliest stage of the disease when the reflex muscular spasm has already produced deformity, the object being to do for nature what she is trying to do for herself, viz: immobilize the joint, thereby relieving the pain and depression on the nerve centre; and in doing this you aid nature in her efforts to bring about a cure. For the purpose of fixation, the writer prefers the plaster of Paris spica to anything that he has ever seen used. This means of fixation is not in general use, because it is thought by many to be an imperfect method. On the contrary, it is, when properly applied, a most perfect way of immobilizing the joint; it puts the muscles at perfect rest and the reflexes to sleep. Two assistants are necessary to keep up gentle traction on the diseased limb while the dressing and plaster bandages are being applied, which should extend from the lower border of the axilla to the tips of the toes; traction should be kept up until the plaster

is well set. If the dressings and plaster are snugly applied around the processes of the ilium, the condyles of the femur and the malleoli and foot, no motion is possible at any of the joints of the encased limb. The spica should be reinforced by pieces of light steel extending from the free ribs to middle third of femur. If there is more deformity than can be overcome by gentle traction at first sitting, put the limb up in line of deformity after being partially corrected. Within a short time the muscular spasm will be sufficiently overcome to allow the limb to be brought into proper position, when a second spica can be applied. The complete immobilization thus secured will in large majority of cases overcome in two or three months the muscular spasm sufficiently to admit of the application of the long traction splint. Some contend that by immobilizing joints there is danger of producing ankylosis. It has been very clearly shown that a healthy joint cannot be ankylosed by this means, and in immobilizing the diseased joint you prevent the pressure of the hyperæmic joint surface one against the other, caused by the muscular spasm. The plaster of Paris has many advantages over the weight and pulley so often used, in that the patient is always comfortable and can be moved about without jar or pain. It is impossible to keep a child perfectly quiet so as to get an equal amount of traction all the time from weight and pulley. Weight has to be taken off whenever the child is to be moved from bed when the spasm immediately returns, and there is a shriek of pain; while in a plaster of Paris spica there is no necessity for the child to remain in bed, but can roll itself about in a rolling-chair. It is regretted that space will not admit of giving the technique of applying a plaster spica. This paper has already been made much more extensive than was intended.

Two questions now arise, viz: 1. When shall the walking brace be applied; and, 2. How long shall it be worn. It should not be applied until the muscular spasm has been sufficiently overcome to reduce the deformity, so that when the patient walks the traction exerted on the leg by the

brace shall be in line of deformity. (2). It should be continued just as long as there is any spasm remaining and until all signs of disease have disappeared—let the time be one year to five years. These questions cannot be better answered than they were by Dr. Gibney in a paper recently read before the Philadelphia County Medical Society, in which he said: "Protect the joint first, last and all the time against trauma, whether the trauma comes from accidents without or from muscular spasm induced reflexly by the disease itself. Protect the joint in the first stage, in second stage and third stage; protect the joint, whether you aspirate, incise or excise."

Recognizing that wounds heal more kindly under rest, at this Hospital all of the children operated on for radical cure of hernia are put up in plaster of Paris spicas for first week.

There are a great many kinds of long-splint braces; the principle of them all is practically the same—perineal resistance with traction on the limb. To obtain the best results from the traction braces, the greatest care is necessary either by the surgeon or some one who has been taught to appreciate fully the object arrived at and will faithfully carry out the instructions.

Abscess.—There is a great difference of opinion, especially between the general surgeon and the conservative orthopædic surgeon, as to the best treatment of a hip abscess. The recognized treatment by the orthopædic surgeon to-day is to let the abscesses alone if they are not causing constitutional disturbance. If the abscess is increasing rapidly and there is danger of its burrowing into the tissues, aspirate it, then strap it with basket strapping and a roller bandage over it. The statistics here given show that 35 per cent. of them get well without being opened. Injections of iodoform emulsions into the joint have been used; but statistics fail to show any advantage for this treatment over the let-alone treatment. It was done in many of the cases here reported, but no advantage was seen in it; just as

many abscesses disappeared without it as did with it. Iodoform emulsions have been abandoned in this hospital.

In the deformities due to muscular and tendinous contraction, they can be corrected by weight and pulley on an inclined plane in the majority of cases. When this fails, then tenotomy and fasciotomy of the contracted bands of fascia lata will have to be done, together with gentle manual force, the limb can be brought into a correct position and held there until the tendons unite; then the brace can be reapplied. When there is strong fibrous or bony union, a femoral osteotomy will be necessary. Gant's femoral osteotomy is the best operation. He divides subcutaneously with an osteotome the femur just below the trochanter minor, selecting this point to get as far as possible from the seat of the original disease, and at the same time to be beyond the resistance of the psoas and iliacus. Limb is then treated as ordinary fracture.

Excision.—This is a subject of great interest, and has excited much discussion. The general opinion is that it is only justified as a dernier resort in the early stage only when you are sure that there is a more extensive osteitis than nature can relieve itself of without great risk of a fatal complication arising during a long-continued suppuration that will necessarily follow. It is an operation that is rarely ever done at present, except in those hospitals where are seen the most unfavorable class of patients. The statistics as to functional results after excision are decidedly against it; for when the epiphysis of femur is removed the growth is interfered with to such an extent that a very much shortened and frail limb is the result. In comparing the statistics of mortality of cases treated conservatively and those that were excised, it is evident that excision should have no place in the routine treatment of hip disease. Exaggerated statements of value of hip excision are often made by the general surgeon who have not had an extended experience in the value of a thorough conservative treatment.

In concluding this desultory paper, I would urge the im-

portance of making an early diagnosis; of improving the patient's general health in every possible way; of protecting the joint by mechanical means just as soon as spasm is recognized and continuing it just as long as any spasm remains; then you will have very few abscesses and rarely ever any necessity for an excision.

1305 *H Street, N. W.*

ART. VII.—Remarks on Typhoid Fever.*

By JAMES D. MORGAN, M. D., of Washington, D. C.

It seems that we all agree on many points in the treatment of typhoid fever—absolute rest, a diet principally of milk, giving of little medicine, and controlling the fever.

Absolute rest is an important factor in the duration, severity and treatment of the disease. It is the experience of all practitioners, that those patients who have fought against the taking to bed early, or those who have been required to make long journeys home or to a hospital, invariably increase the severity of their case.

A diet of milk, skimmed or not, as the flatulency, or the condition of the stools of our patient will indicate to us, is the principal sustainer of the life of our patient. Many can and do take with benefit throughout the disease a little essence of beef, which helps to bring up to the proper standard the constituents of the dietary.

I firmly believe that calomel, given in the prodrome of the disease has a beneficial effect on the whole course of the disease. I may go further and say, that I am strongly inclined to believe that calomel, judiciously managed in the prodrome and the first days of the stage of pyrexia, has a salutary effect in shortening the duration of the disease. I have attended cases where they have not had the advantages of a preparatory treatment of calomel, and always the course of the dis-

* Made at the Meeting of the Medical Society of the District of Columbia, January 24th, 1894, and contributed also to *Food*, March, 1894.

ease is more severe. Throughout the run of the disease I give little medicine, simply watching the fever, the pulse, the abdomen and the stools. The tincture of iodine and carbolic acid spoken of by Bartholow, I confess I use more as a placebo than a curative agent. I have seen good occasions to use the tincture of *veratrum viride*, when the cold sponging had little quieting effect. Turpentine I have seldom had to fail me, in three to five-drop doses, for tympanites. The simple diuretics and diaphoretics are often used to advantage in lowering the fever and making our patients more comfortable. Constipation can be relieved by enema, the giving of a little Hunyadi water, castor oil, or if obstinate, by small repeated doses of calomel. Diarrhœa should be regulated by the diet. Where bismuth with a vegetable astringent fails, sulphate of copper acts well.

I have had no personal experience in the application of the Brand method, but have seen it used. I rely upon the sponging with alcohol and water, cold to the head, and in several cases I have carried out the application of cold cloths to the abdomen with success. The application of the Brand method exclusively, on account of the inconvenience and the extra nursing required, seems out of the question, unless the method can be shown to reduce the mortality regularly. I mean by regularly, in all localities, in all seasons, in all years.

In this case of typhoid, at present under my care (exhibits chart), according to Brand and his advocates, the bath should have been used. But you can see, by reference to the chart, the same good results have been accomplished by the more easy method of sponging the body with alcohol and water.

It is admitted that fully 70 per cent. of typhoid cases will recover without medical treatment. A practitioner who has success in his cases of typhoid, say 5 to 6 per cent., is loath to abandon a treatment for one, the positiveness of which for better is not yet fully proven—a treatment, too, which is more difficult of carrying out, and one to which the patients often object. Dr. George Peabody, of College of

Physicians and Surgeons, New York, says "some like the baths, but others dislike them very much." I have it from several of the nurses in the hospitals, that patients often object to the bath; also that the bath often fails in quieting the patient and relieving the delirium.

I am for advancement, but advancement with discretion. Let us not be too hasty in discarding the whole of our former methods in the treatment of typhoid fever. Let us use the new methods rather as auxiliaries than supplanters.

"Be not the first by whom the new are tried,
Nor yet the last to lay the old aside."

Of the twenty-eight cases of typhoid in the years of 1891, '92 and '93, I have had one death. The cause of death in this one was hypostatic pneumonia following a relapse of typhoid fever. Of the twenty-eight cases, seven had severe nervous symptoms. One of the seven had a complication following of suppurative parotitis. One had a thrombosis of the femoral vein.

919 Fifteenth Street.

ART. VIII.—Antagonism of Erysipelas in Disease.*

By JOHN F. MORAN, M. D., of Washington, D. C.

DEMONSTRATOR OF ANATOMY MEDICAL DEPARTMENT GEORGETOWN UNIVERSITY.

In November, 1892, I was called to attend Mr. C., who, upon examination, was found to be suffering with pneumonia of the upper lobe of the right lung. The usual symptoms and signs of the disease were well marked, and microscopical examination of the sputum revealed the pneumococci. On the third day of the disease, I noticed an erysipelatous blush at the edge of the nose, attended with itching and swelling. It spread quickly, and by the following day involved the entire face. Simultaneous with the appearance of the erysipelas the pneumonia rapidly declined, the cough, which had been very distressing, abated, and the characteristic sputum could no longer be obtained.

* Read at a Meeting of the Medical and Surgical Society of the District of Columbia, February 12th, 1894.

Miss B., in December, 1892, contracted diphtheria while nursing mother and sister suffering with the disease. Facial erysipelas spontaneously developed, the false membrane disappeared, and the patient's condition rapidly changed for the better.

In both cases the constitutional symptoms were much milder than in uncomplicated erysipelas. I was so forcibly impressed with the rapid termination of the primary disease coincident with the development of the erysipelas, that I felt it could not be attributed to mere coincidence.

In looking over the literature of the subject, I find numerous instances of the benign effects of erysipelas as an intercurrent disease. It appears to have been first noticed and recorded in 1828 by Cazenave and Schedel in their work "Abrégé Pratique des Maladies de la Peau." Here the fact is clearly recognized, that an erysipelas accidentally acquired in the course of a chronic lupus or eczema, exerts a favorable influence upon the latter, although no reason is assigned. The same ideas were expressed by Sabatier in his graduating thesis, Paris, 1831.

A. Ott¹ cites two cases of diphtheria of the fauces with subsequent intercurrent erysipelas in which, after the appearance of the latter, the symptoms improved and the patients recovered. He also states that he has found two other cases of erysipelas complicating diphtheria, both terminating in death.²

Babchinski,³ while attending a grave case of diphtheria occurring in his own son, observed that a rapid change for the better occurred coincidently with the appearance of erysipelas on the face. The fever rapidly fell, the false membrane disappeared, and a cure rapidly took place. He states that in several other cases he noted a great improvement coincident with the appearance of the erysipelas, and in one case the erysipelas occurred on the leg and not on the face.

These facts suggested to him the idea of inoculating diph-

¹ *Prag. Med. Wochenschr.*, 1890, XV., 173.

² *Archiv. der Heilkunde*, 1870, p. 389, and *Jahrbuch für Kinderheil*, 1872, p. 105.

³ *Répertoire de Pharmacie*, July 10th, 1890.

theria cases with blood taken from patients suffering from erysipelas, and he states that in several cases in which he employed this procedure cure resulted. Later on, he practiced inoculation in fourteen cases of diphtheria with cultures of the microbes of erysipelas in agar-agar, and likewise noticed the disappearance of the symptoms of the disease. No other treatment was adopted and the patients recovered, while other cases in the same families not so treated died. In two cases he was unsuccessful, the patients dying before the erysipelas had time to develop.

The relation between pneumonia and intercurrent erysipelas is obscure. Stackler¹ gives a case of pneumonia followed by erysipelas with subsidence of symptoms and recovery.

Waibel² and Schäfer³ record cases of pulmonary phthisis(?) healed by intercurrent erysipelas.

Horwitz⁴ reports two cases of malignant syphilis in which erysipelas apparently cured, or at least modified, the virulence. Neumann⁵ also cites two cases of the favorable influence resulting from the accidental inoculation of erysipelas.

Schmidt⁶ reports a case of gonorrhœa in a child three years old, who was brought to him, who had suffered four days from vaginal discharge due to a criminal attempt on the part of an adult. There was purulent discharge from both urethra and vagina, and in the discharge the typical gonococci were found. On the fourth day erysipelas developed on the upper third of the thigh; at the same time it was noted that the œdema of the greater lip subsided, and the discharge had ceased. The following day the genitalia were absolutely normal in appearance, and no discharge could be obtained from urethra or vagina. It is well known that gonorrhœa is difficult to cure, and generally runs a

¹ *France Médical*, Paris, 1880.

² *München. Medischine Wochenschrift*, 1888, No. 481.

³ *Ibid.*, 1890, No. 27.

⁴ *Med. News*, 1891, p. 324.

⁵ *Allg. Wiener Med. Zeitung*, 1888.

⁶ *Centralblatt für Gynäkologie*, No. 39, 1893.

tedious course. The case was again observed two months later, and there was no return of discharge from the genitalia.

The first investigation of the effects of accidental inoculation of erysipelas upon new growth (tumors, etc.,) were made by W. Busch.¹

The first experiments with artificial inoculation as a curative measure were made by Fehleisen, Busch, Ricord, Deprès and Neisser. Fehleisen's cases were the first, and they served as a subsidiary confirmation of the pathogenic character of the streptococcus which he had isolated, and cultures of which he employed in his inoculations.

Wm. Coley,² in an interesting and exhaustive article on the "Treatment of Malignant Tumors by Repeated Inoculations of Erysipelas," has collected and tabulated thirty-eight cases in which erysipelas occurred spontaneously or by artificial inoculation; seventeen cases were carcinoma, seventeen were sarcoma, and four either carcinoma or sarcoma. The immediate and final result was as follows:

Carcinoma.—Seventeen cases; three were permanently cured. In addition, one case of probable carcinoma (Hutchinson's) was well five years after an attack of erysipelas. Of the remaining thirteen cases, ten showed improvement, which, although temporary, undoubtedly added to the life of the patients in most cases. One case (Janike's) died as a result of erysipelas on the fourth day.

Sarcoma.—Seventeen cases. Seven or 41 per cent. were well and free from recurrence from one to seven years. Ten of the eleven cases showed marked improvement, entirely disappearing and not recurring for several months. One case died as a probable result of erysipelas, which was in this case accidental.

"These figures," he says, "may then be taken to fairly represent the curative effect upon carcinoma and sarcoma in the worst cases; when we reflect that in nearly every instance the tumor was not a primary growth, amenable to operative treatment, but either a recurrence after operation had been tried and failed, or from its nature inoperable, then, and then only, are we in a position to estimate the importance and value of erysipelas as a curative agent."

¹ *Berlin Klin. Wochenschrift*, 1866.

² *American Journal of Med. Sciences*, May, 1893.

How, then, is it possible to explain this antagonism? Is it the result of a mortal strife between the germ, or their destruction by some active agent present in the tissues or fluids of the body, or the neutralization of the toxic products of the germ by the evolution of an antitoxic product on the part of the system?

It is the generally accepted view, that immunity is due to the formation of a substance in the body of the immune animal, which neutralizes the toxic products of the germ. "How the presence of these toxic products in the first instance brings about formation of an antitoxine by which they are neutralized is still a mystery; but that such a substance is formed appears to be proved by the recent experiments of Ogata, Behring and Kitasato, Tizzoni and Cattani, G. and F. Klemperer and others."¹

That this antagonism is not due to the germ directly, is evidenced by the fact that in animals rendered immune against tetanus and diphtheria by inoculation with the toxic products, it does not prevent the continued development of the pathogenic germs.

There is an inherent property in all cells to maintain the integrity of the body. Any departure from this is abnormal, as, for instance, can be shown in the coagulation of the blood in a vessel by injury of the vessel wall. The blood is known to contain certain elements in solution, namely: fibrinogen and fibrinoplastin, which unite under certain conditions to produce fibrin. The coagulation does not take place unless the cells are injured; when this occurs, certain substances are set free from the cell which causes the fibrinogen and fibrinoplastin to unite as fibrin. On the same ground the statement can be made that the normal body has a resistance to a greater or less degree against the causes of disease which may be specific or general. This property lies within the cells, and is called into action only when there is an exciting cause; for example, in a local infection by a micro-organism, notably anthrax, erysipelas, etc., there is a mechanical irritation by the growth of the bacillus in

¹ Sternberg's *Bacteriology*, p. 256.

the tissues. This calls into action the resisting forces of the cell-producing tissues, and we have an increased blood supply, and in fact all tissues are brought into a state of hyperactivity to resist this irritation. When the bacillus in its growth evolves its specific poison another set of symptoms are manifested, and we now see what occurs in prolonged mechanical irritation—paralysis of the blood vessel and the proliferation of the leucocytes, by which they hedge in the invading bacillus and by which nature attempts to confine its effects locally. At this stage we not only have an aggregation of leucocytes, but also the formation of fibrin due to the action of the poison on the cell element. Further, in the rôle played by the bacilli, the cells evolve certain substances which neutralize the ptomaines of the organism, and so long as this neutralizing property is evolved in sufficient quantity to antagonize the ptomaine, the process will be only local.

Again, the leucocytes perform another part, that is *phagocytosis*; the leucocytes seize upon a certain number of the bacilli and digest them. It has been claimed that this action of the cell is only manifested toward dead bacteria, but many observers have confirmed the theory that a considerable quantity of the bacteria are thus disposed of.

Hankin has found in the spleen and glands of the rat rendered immune against anthrax a *globulin*, a substance which did not previously exist. This peculiar globulin lies entirely in the gland tissues, which evolve the cellular elements of the blood, and so long as this substance is present, it confers a resistance to the disease. The exact nature of this globulin is not known, except that it is insoluble in water or alcohol, and does not dialyze. Tizzoni and Cattani have also found in the blood of animals immune to tetanus an albuminous substance which they designate *tetanus antitoxine*. They conclude that the substance is a globulin, and that it is different from the globulin described by Hankin, which would seem to infer that there is more than one kind evolved.

In an abstract¹ of a paper by Sorbenheim² are published

¹ *British Medical Journal*, Jan. 18, 1894.

² *Hygien. Rundschau*, No. 22, 1893.

some experiments, which go to confirm those of Klein.¹ He injected into the peritoneal cavity of a series of guinea pigs stated quantities of the following cultivations mixed with bouillon of the following bacteria: *Proteus vulgaris*, *micrococcus prodigiosus*, bacillus of typhoid fever, bacillus coli communis, bacillus Finkler, and the hay bacillus. He found that all could produce death with depression of the temperature and other symptoms closely resembling those observed after the injection of the cholera vibrio, and that, as Klein stated, the typhoid bacillus and the *micrococcus prodigiosus* had the highest pathogenic power. Three animals, which had survived small doses of the *proteus vulgaris* and bacillus coli communis and Finkler bacillus, together with the fourth untreated (control animal), were submitted to the intra-peritoneal injections of lethal doses of the cultivations of the comma bacillus. The three animals previously inoculated with the micro-organisms mentioned, did not suffer any illness, and the control animal died after presenting the usual symptoms.

Subsequently, the animals were inoculated with all six of the organisms enumerated, in which the organisms had been killed by raising the cultivations to 65°C. for twenty minutes. Three days afterwards all six, together with the seventh (control animal), were given injections of the cholera cultivations of sufficient quantity to kill the untreated animal. The control animal died in less than eighteen hours after presenting the usual depression of temperature. The other animals did not show any signs of illness. It would appear, therefore, that they had been rendered immune to the intra-peritoneal injections of the cholera vibrio by previous injection of cultivations of certain other bacilli.

The introduction of another substance which acts as a stimulant—as turpentine, croton oil, cantharadin, toxalbumin of jequirity bean, and certain animal poisons—arouses the torpid condition of the system and stimulates it to produce the anti-toxine or neutralizing elements in such a de-

¹ *Centralblatt für Bakt. u. Parasit.* No. 13.

gree as to overcome the special poison in the case of erysipelas, which is one of the most decided cell stimulants that we have—in other words, a stimulant without destruction, as is shown by the dead cultures, which have decided chemio-taxic properties. In other diseases, the staphylococcus aureus, bacillus pyocyaneus, the vibrio of Metchnikoff, and bacillus of Rauschbrand (quarter evil), also have this property in a marked degree. The experiments on animals have demonstrated that if attenuated or filtered cultures of a pathogenic bacteria be injected into the bodies of susceptible animals, they can be rendered immune to the particular micro-organism, but that acquired immunity against any one of these will also be efficient against many other bacterial diseases.

If, as above stated, the introduction of chemicals, ptomaines, and bacteria, serve to stimulate the system to produce anti-toxine, is it not plausible, reasoning by analogy, to assume that erysipelas, being par excellence a cell stimulant, also acts in this manner?

2426 Pennsylvania Ave., N. W.

ART. IX.—Need of Care in the Diagnosis of Spitting of Blood.*

By JAMES D. MORGAN, M. D., of Washington, D. C.

Spitting of blood is so common, and the progress and treatment of our patients depend so much upon a correct and expeditious diagnosis, that it behooves us to weigh carefully the minutest detail of the causes which may have led up to the spitting of blood. We must, in many cases, depend entirely upon objective symptoms. The patient is often in a state which does not admit of examination, and the mind may be so blunted by the sudden shock of the loss of blood that inquiries will avail us nothing. Some are so unnerved by the loss of even a slight amount of blood by the mouth that an immediate physical examination, or

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, Feb. 12, 1894.

a system of interrogations, is worse than useless as an aid to diagnosis.

An illustrative case of the above was a Miss S., a strong, robust person, who had generally enjoyed good health. Having spent the better part of the day down town shopping, she took the car for home. She was feeling well, and after getting aboard the car, she used her handkerchief quite freely for her nostrils, and cleared her throat, when she noticed that she had spit a little blood. She immediately stopped the car, and took a carriage and came to my office, saying that she wished to see me immediately, as she had a hæmorrhage. Being told that I was out, she thereupon swooned. After restoratives were applied, she went home, got to bed, and later in the day I saw her. She had evidently quieted down considerably, and, on a thorough examination, I found nothing indicative of a hæmorrhage from the lungs or stomach, and told her that the blood must have come from the vault of the throat. The succeeding day, on hawking and clearing the naso-pharynx, the secretion was tinged with blood. A simple astringent atomizing solution for her nostrils was all that was used.

We are to be as much on the watch for the hæmophobiæ as for the patient whose temperament is such that the very calmness with which he views his peril often may mislead us as to the gravity of the case.

Mr. B., a saloon-keeper, had generally enjoyed good health. Occasionally, he was attended by the writer for *mania a potu*. He was taken without warning on the street with spitting of large quantities of dark grumous blood. A physician of good standing was summoned, who gave large doses of sugar of lead and opium by mouth, and continued treatment throughout day and night at the patient's house. Patient persisted in sitting up in bed and eating what he wanted—saying he felt as well as he ever did. During the succeeding twenty-four hours he continued to vomit such large quantities of blood, and was so visibly weakened, that his wife became alarmed, and I was sent for. I immediately stopped all food and medicine *per orem* except little pellets of ice, enjoined absolute rest, and administered ergotine hypodermically. Patient made a slow, but sure recovery.

Mr. P. had just eaten and drunk heartily, and was feeling particularly well, and had started down the steps of his ho-

tel for the Capitol, when he was taken with a most profuse loss of blood through the mouth and nostrils, which, for a few minutes, brought on a state of syncope. On arriving, I found two physicians in attendance. Consultation developed the fact that one physician was positive that the hæmorrhage was bronchial, as he detected sub-crepitant râles. The fact was brought out later on the same day that the patient had been recently operated on for bleeding piles.

Mr. M. suffered now and then from severe naso-pharyngeal hæmorrhage, the blood coming from the mouth and nose. He always returned to work the same or succeeding day. His physician generally stopped the hæmorrhage by plugging the nostrils, using styptic gargles, and giving hæmostatics internally. On examining the patient, I found him suffering with a mitral obstructive lesion. He could not believe that the hæmorrhage was caused by the heart. Within a few months this patient died suddenly while at work.

A case I successfully attended in the last month still gives rise to doubt in my mind as to the true source of the spitting of blood.

A Mr. F. had been under my care off and on for the last year for a chronic persistent cough, which, at times, showed a destruction of lung tissue in the expectoration. There were areas of dullness in the lungs, with slight broncho-vesicular respiration. His heart was free of organic disease. His liver was near the normal size, perhaps slightly sclerotic. He suffered now and then from what he familiarly called torpidity of the liver. He was given but rarely to using intoxicating liquors, but had occasionally imbibed too freely. He was taken very suddenly one evening, becoming nauseated from a visit to a sick father in the house, who was suffering severely from uræmia. He returned to his room coughing and still feeling nauseated. On attempting to lift a door which had become warped and stuck fast, he instantly had a gush of bright blood, followed, in a few seconds, by vomiting. The right lung was filled with moist râles, and every cough brought a little mucus tinged with blood. There was no tenderness over the stomach. The next day the region of the epigastrium was extremely sensitive. The area of the liver dullness was increased with a distinct, visible and sensitive swelling, occupying the right lower half of the epigastric region. The stools showed no blood. At times, for a few days, a slight amount of dark coagulated

blood was coughed up. Was there or not a hæmorrhage also from the stomach?

The case of an opera singer, I well remember, who was attended by the late Dr. Carroll Morgan for a hæmorrhage, which was finally located to be laryngeal in origin, and which was very apt to recur with any extreme effort of the voice in singing.

Several cases of epistaxis and spitting of blood have come under my care where the hæmorrhage was but a precursor of a delayed resolution in pneumonia. The lungs and stomach I have often seen the outlooks of a vicarious menstruation, and I may state here without resultant bad effect. So it is important not only to locate the hæmorrhage, but more important to establish the cause. A hæmorrhage from the lung is most apt to be considered correlative of phthisis. Even Flint* has said that "in a certain proportion of cases it occurs when physical signs do not afford evidence of its existence." A bronchorrhagia may depend solely on a mitral or aortic lesion; "a sputa† streaked with blood on simple bronchitis, or intimately admixed with blood on pneumonia;" a pulmonary hæmorrhage may be symptomatic of delayed menstruation or impeded portal circulation. Sir Andrew Clark‡ speaks of a "non-tubercular hæmoptysis in elderly persons due to structural alterations in the blood-vessels of the lungs in persons of the arthritic diathesis. The hæmorrhage is aggravated or maintained by the administration of astringents." A sudden and great loss of blood may come from a ruptured aneurism into the bronchus, or from an ulceration of some portion of the respiratory tract extending into the adjacent artery, as has been reported of "the larynx§ into the carotid artery." Slight spitting of blood may be due to a blow on the chest, or to a mechanical injury, such as a fractured rib; or the cause of the hæmorrhage may not be apparent, as occurs sometimes

* Flint. *Practice of Medicine*, 5th ed.

† Da Costa *Med. Diagnosis*, 7th ed.

‡ *Med. Press and Circular*, Oct. 23, 1889, p. 405.

§ Hartshorn. *Essentials of Practical Medicine*.

in the beginning or in the latent forms of certain contagious diseases.

Dr. Kidd,* of the Brompton Hospital, London, says: "The difficulties of diagnosis more often arise in the case of the female sex. Anæmic girls not infrequently complain that their mouths and throats are full of blood in the morning, or that they find blood on the pillow on arising from bed. This is often found to consist of a thin, reddish, watery fluid, apparently blood-stained saliva, quite unlike the blood expectorated from the lungs. On examination, no disease of the mouth, nose, throat, or lungs, can be detected, and the blood seems to have oozed from the gums or mucous membrane of the mouth, rather by a process of diapedesis than by a rupture of vessels. Such patients generally manifest no impairment of their general health."

In dealing with hæmorrhage from the stomach, it is important to know, first, if we have a diseased liver, and what is the condition of the portal tributaries. Whether the heart may be hampered in its work or the spleen may be enlarged. Hæmorrhage occurs with many of the fevers, as typhus, relapsing, and yellow fever. A sudden fall or fright, or the swallowing of an irritant poison, may give rise to the vomiting of blood. An ulceration or cancerous condition of the stomach often leads to the vomiting of blood. The asthmatic, hysterical, or enceinte state are known to give rise to hæmorrhage from the stomach. The loss of blood may come with a gush, as in aneurism, or it may be slow and persistent, as in the purpuric diathesis. In our difficulty in diagnosing, it is well to remember, the malingerer, who may swallow a quantity of blood and then cause emesis; that the blood may come from the lungs and have been swallowed, or it may have reached the stomach from a neighboring organ, as an ulcerating pancreas.

As to hæmorrhage from other parts, as the mouth or naso-pharynx, direct inspection will always reveal the source.

* *British Medical Journal*, Sept. 14, 1888, p. 610.

Many of the following points in the differential diagnosis of hæmatemesis and hæmoptysis are to be found if sought for industriously :

Hæmatemesis.

Usually antecedent history of gastric or hepatic disease or portal congestion.

Preceded by nausea and vomiting.

Blood acid, dark grumous, generally more abundant; most likely mixed with food. Tenderness over stomach. Generally blood with stools.

Hæmoptysis.

Usually antecedent history of lung or heart disease.

Preceded by dyspnœa, cough, salty taste; warm feeling over sternum, sense of trickling of fluid in chest, and generally followed by nausea and vomiting. Moist râles on auscultation.

Blood alkaline: bright frothy red. Subsequent cough, with mucus tinged with blood.

These points and others passing rapidly before the mind are but the resources of a thorough diagnostician, and are the footings on which a prompt and successful treatment is laid down.

It is only the tactus eruditus, the acoustic ear, the quick, comprehensive, and discriminating eye which can lead us to the adoption of a ready and safe treatment for the spitting of blood.

919 Fifteenth Street, McPherson Square.

Clinical Reports.

Induction of Premature Labor in Contracted Pelvis.

By E. S. McKEAN, M. D., of Kerr's Creek, Va.

The patient, aged about 35, has a pelvic deformity of the masculine or funnel-shaped type—the third form of justo-minor pelvis as classified by Parvin.—the outlet being chiefly contracted.

She had had three previous pregnancies. The first, a twin pregnancy, terminated at about the eighth month, by spontaneous premature labor. The children, being very

small, were born without artificial aid. One was still-born ; the other lived five months.

The second pregnancy resulted in the delivery at term of a large male child, by version, and, I believe, perforation of the after-coming head.

I attended the patient for the first time in her third confinement. Craniotomy had to be resorted to for the delivery of a large male child.

For the mother's safety, and the parties being anxious for children, I urged the induction of premature labor in case of future pregnancy.

As this occurred at the end of seven and a half months from the commencement of pregnancy, I, with thorough antisepsis, injected three ounces of pure, sterilized glycerine between the membranes and the uterine wall, through a soft catheter introduced about 9 inches. The catheter was left in situ as an adjuvant.

Labor commenced in nine hours, and terminated in the unaided delivery of a living female child.

Owing to the condition of the cervix at this period of pregnancy, and to the uterine contractions being rather feeble, the first stage was prolonged to twenty hours. As the patient's general condition was excellent, the membranes being unruptured, and no occasion for haste existing, this was a decided advantage.

The second stage lasted three-quarters of an hour. Towards the termination of the first stage, when the cervix was dilated to a diameter of about two inches, and had become quite soft, the pains having nearly ceased, I ruptured the membranes. Vigorous contractions followed in a few minutes.

The patient had an uninterrupted recovery. The child, fairly vigorous at birth, died in six hours, in spite of every effort to save it.

In cases of premature labor, induced by injections of glycerine, reported by Pelzer, and others, labor began in from half an hour to two hours and a half after the injection. In the case recorded above, the long interval between the injection and the onset of labor makes it uncertain whether its production should be credited to the glycerine or to the presence of the catheter.

That in a new method of procedure the record of an apparent failure may possibly prove of some interest, constitutes my apology for reporting the case.

*Correspondence.***Discoverer of Modern Surgical Anæsthesia—A Reply to
W. R. Hayden, M. D.**

Mr. Editor,—In the February number of your journal I have read, with amazement, “A Review of a Contribution to the History of the Discovery of Anæsthesia,” by W. R. Hayden, M. D.

There can be no doubt that to Dr. Crawford W. Long belongs the priority in the discovery of anæsthesia. This took place in 1842. Two years later (*viz.*: on the 10th of December, 1844), Dr. Horace Wells, of Hartford, made the discovery of the anæsthetic effects of the nitrous oxide gas. This discovery was made at my exhibition of the gas, and the next day Dr. Wells tested the truth of the discovery on himself by having a decayed molar extracted, for which I gave the gas. This was the first tooth ever drawn without pain.

This discovery was entirely independent of any knowledge of Dr. Long's operations; for Dr. Long, at that time, had made no publication of his discovery. Dr. Wells immediately got up the apparatus and began to make and administer the gas. In a few weeks from this time, he went to Boston to make the discovery known to the world. Among the many physicians and dentists on whom he called was his former pupil in dentistry, Dr. W. T. G. Morton. They all laughed at him, and pronounced his discovery a humbug. Dr. Wells returned to Hartford discouraged and resumed his practice, using the gas in the extraction of teeth. There was Bishop Brownell and his two daughters, and some forty of the most respectable citizens of Hartford who, afterwards, gave their depositions that during that year, 1845, Dr. Wells extracted teeth for them without pain, using the gas as an anæsthetic.

About the end of 1845, Dr. Wells' health failed, and he went to Europe. When in Paris he presented his claim before “the Academy of Sciences,” and received the honor of an “M. D.” If I remember rightly, he was absent a little

over a year, traveling on the continent. As he could not speak the language, he made no use of the gas.

During Dr. Wells' absence in Europe, Dr. Morton, having seen some newspaper notices of Dr. Wells' operations, and knowing Wells to be an honest man, went to Dr. Jackson, a chemist of Boston, to learn how to make the nitrous oxide gas, as he wished to test the truth of Wells' pretended discovery. Dr. Jackson said to him: "Why, that gas exhilarates. If that will destroy pain, sulphuric ether will do the same."

Upon this hint, Dr. Morton got some ether and tried it on a boy for the extraction of a tooth. This took place on the 30th of September, 1846. Dr. Morton and Dr. Jackson, after instituting a series of experiments, applied *jointly* for a patent for the discovery of the anæsthetic powers of ether. Before the patent was issued, Dr. Jackson sold his interest in it to Morton, taking an agreement that Morton should pay him 10 per cent. of all he made out of it. The patent was issued to Morton. Then Morton, in order to mystify and deceive the public, called the substance *Lætheon*, instead of ether! When Jackson found that some man's name was going down to posterity as a great discoverer, he claimed the honor because he suggested ether to Morton. Then followed a cat and dog fight in the papers between these gentlemen. They got their ideas entirely from Wells. Before Wells went to Europe, he tried one successful surgical operation with ether, but did not like the disagreeable odor or the symptoms manifested.

When Dr. Wells returned from Europe in 1847, he was astonished to find that Dr. Morton had obtained a patent, and claimed the honor of the discovery of anæsthesia! Then a violent and exciting discussion commenced between them in the *Boston Medical and Surgical Journal*. This discussion, and the effort to deprive him of the honor of the discovery, so worked on the sensitive nature of Wells, that he became deranged and committed suicide. He died on the 24th of January, 1848. He had the reputation in Hartford of being

a modest, amiable Christian gentleman. There can be no question in regard to his insanity.

After the death of Wells, Morton set up the claim that nitrous oxide was no anæsthetic at all; that insensibility could not be produced by it; and, therefore, he, Morton, was the unquestioned discoverer of anæsthesia. This was really an admission on the part of Morton, that if nitrous oxide *was* an anæsthetic, Wells was the discoverer. No one had used the gas save Wells up to the time of his death. So that from 1848 to 1863, the gas was dead and forgotten as an anæsthetic. In June, 1863, remembering the experiment with Wells, at which I assisted, I revived the use of the gas, and demonstrated that it was not only an anæsthetic, but the very *best* anæsthetic for short operations.

Dr. Hayden, in speaking of Dr. Wells, says: "He was a criminal in a New York prison, having committed a dastardly act against some woman of questionable character; and he died by his own hand." A man who could write such about Dr. Wells, must either be profoundly ignorant of the facts, or he must possess a very great amount of prejudice. Take which horn of the dilemma you please.

Dr. Hayden sneers at Hartford for having erected a monument to the memory of Wells. The city of Hartford gave \$5,000, and the State of Connecticut \$5,000 more for this monument, on which appears the name of Dr. Wells and the date of his discovery. The city of Boston, "the Hub of the Universe," never appropriated one dollar to commemorate the name of Dr. Morton. Thomas Lee, a friend of Dr. Morton, left \$10,000 in his will to erect a *monument to the memory of the discoverer of the anæsthetic effects of ether*. The monument was erected, but Boston declined to put Morton's name on it! And Dr. Shurtleff, the Mayor, on receiving the monument at the unveiling, never so much as mentioned the name of Dr. Morton—a significant fact. The wealthy friends of Dr. Jackson were present!!

Dr. Morton deserves credit for having pushed the use of ether in the Massachusetts General Hospital. But this does

not relieve him from the charge of endeavoring to *steal* the name of the discovery of anæsthesia from Dr. Wells. (Steal is a hard word, but no other tells the truth.)

It is a remarkable fact, so far as I am informed, that of all the medical and surgical journals in the United States, only *one* supports the claim of Dr. Morton—that of the *Boston Journal*!

Dr. Hayden mentions the names of a few distinguished individuals in Boston who favor the claim of Dr. Morton. Undoubtedly they formed their opinions while the nitrous oxide gas lay in abeyance between 1848 and 1863. After the gas was *proved* to be an anæsthetic, did they not change their minds?

Dr. Hayden writes: "Nothing but the most outrageous lying of a competitor—not Dr. Long—defeated the acknowledgment by Congress of Dr. Morton's claim and reward for his great services in behalf of the whole world."

Dr. Morton got a bill reported in the Senate, giving him \$100,000 for his discovery. The claims of Morton and Wells were thoroughly discussed, and the bill was killed by *thirteen majority*!—a verdict based on the plain merits of the case. If there was any "lying," it could not have been by the advocates of Dr. Wells. Dr. Wells never thought of a patent, or of asking Congress for a reward.

I was in Washington at the time Dr. Morton's bill was under discussion, and I heard a member of Congress say that a few evenings previous, he and many other members were invited to a champagne and oyster supper. They did not know who gave it. At the close, however, they were introduced to *Dr. Morton* as the generous giver! Did Dr. Morton think he could influence (I don't say bribe) members of Congress to vote for his bill by giving them a champagne and oyster supper? This part of the history connected with this matter, I believe, has never been written before.

Dr. L. W. Nevius has written a little volume on "The Discovery of Modern Anæsthesia—By Whom was it Made?"

The book presents the most fair and impartial statement of the subject I have ever seen. He does not advocate the claims of any one man, but has gathered all the facts possible bearing on the subject, and with an even hand has balanced the claims of each, giving the amount of credit which is due to each. I understand that even the relatives of Dr. Morton admit its fairness.

He gives *me* no credit, as none is deserved, for I was only incidentally connected with the discovery claimed for Dr. Wells.

G. Q. COLTON, D. D. S.

19 Cooper Institute, New York, N. Y.

The New Virginia Law Concerning Those Who May Practice Medicine, etc., Explained.

Mr. Editor,—I fear you, with others, have misinterpreted the Virginia Medical Examiners' law as it now stands. Why such a hue and cry should be raised I cannot conceive.

The law, as now drafted, was surely not intended to interfere with a single legal practitioner in the State. As originally passed about February 1st, 1894, there were three distinct classes who were to be considered legal practitioners, viz: those who had been practicing five years consecutively prior to the passage of the act; those who had been awarded certificates by the Medical Board since its organization, and those who would hereafter be licensed by said Board of Medical Examiners.

Under our law, prior to February, 1892, any one who claimed to have practiced in another State, could come into Virginia and obtain a license without the certificate of the Medical Board. Quite a number availed themselves of the opportunity, and were thus licensed.

The amendment of February, 1892, required that a person, to be exempt from examination by the Board, must have practiced in this State. It also declared all those then licensed legal practitioners. Those who were licensed in the latter part of 1889, 1890 and 1891, without the Board certificates, would clearly be reached by the law of February, 1st, 1894, inasmuch as they have not yet been practicing for the term of five years. My attention was called to this

fact by Dr. A. S. Priddy, a member of the Legislature and member of the Medical Examining Board, who had been approached in regard to the matter by Senator Buchanan, of Washington county.

Senator Buchanan had been stirred in the matter by the Commonwealth Attorney of his county, who wrote to him in regard to the retro-active feature of the law. Several members of the Legislature were immediately consulted as to what was best to be done. The proviso to the first clause of the first section of the bill, declaring the law not applicable to any one then legally practicing in this State, was suggested as a fit remedy.

As the legislative session was drawing to a close, and in order to relieve the law from what might prove a burdensome, as well as unconstitutional feature, Senator Buchanan introduced the amended bill in the Senate and had it immediately passed. It also went through the House, after a short delay, without discussion. The charge that the law was "rushed through," is without foundation. The bill was introduced early in the session of the Legislature, and did not become a law until either the latter part of January or the first of February. The last amendment, which was only the proviso, already several times mentioned, was hastened in its course as rapidly as possible; but no objection, I can imagine, would be raised to this.

To sum up: the only persons who can possibly suffer hardships under the new law, are practitioners who, for some reason, neglected to take out a license in the years 1893-'94, and were not licentiates of the Medical Board. Note the fact, that a person once holding the certificate of the Medical Board, whether he has at any time received a license from a commissioner of the revenue or no, is entirely exempt under the present law. It is to be regretted, if there are practitioners who were not licensed at the time of the passage of this law. Their cases are certainly, I imagine, but few, and to frame a law such as would hurt no one's corns, I take it, would be well-nigh impossible.

Mr. Robt. Barton, who framed the law, copied it largely from the West Virginia law, which had stood the test of some of the highest courts.

The reason of the insertion of the five-year clause was, doubtless, to shut out traveling quacks. Had neither this five-year clause, nor the provision that a person must have been a legal practitioner at the time of the passage of the act, been inserted, then our State would have had the gates

wide open to such quacks as the well-known Flower and others who had not at any time received a license from any commissioner of revenue in this State.

If there are any who have heretofore legally practiced in the State, and are now debarred, it is to be hoped they will at once notify the Secretary of the Board, who can call the attention of the Board to their cases.

Very respectfully,

BENJ. HARRISON, M. D.,
Sec. Med. Exam. Brd. Va.

Richmond, Va, March 10th, 1894.

Electrical Treatment of Uterine Fibromata.

Dear Dr. Edwards,—Will you kindly give space in the *Medical Monthly* for the following clipping from the *British Medical Journal*, which has been published in the *Annals of Gynecology* for March, page 357. It is but fair to call attention to the original article (this is an extract), which shows that, besides the one hundred cases alluded to in this note, one hundred recent cases were excluded “because the length of time that had elapsed since the treatment had ceased, was not sufficiently long to be of value as to the final results.” In view of the recent paper by Dr. Claiborne, and its discussion by the Medical Society of Virginia, (*Transactions*, 1893,) I am persuaded that any adverse remarks coming from me would not be welcomed; therefore, I simply ask you to print this clipping, as representing the best to be said for electricity in the treatment of uterine fibromata.

I. S. STONE, M. D.

1504 H Street, N. W., Washington, D. C

March 17th, 1894.

The following is the clipping referred to:

“*Electric Treatment of Uterine Fibromata.*—Bergonié and Boursier (*Arch. Clin. de Bordeaux*, May, 1893,) give a summary of the results obtained by them in the treatment of one hundred cases of uterine fibromata by monopolar positive electrolysis, according to the practice of Apostoli. They conclude: (1) That the treatment of uterine fibroids by this method is principally a palliative—efficacious in hæmorrhagic fibroids (90 per cent.); (2) that it acts favorably on the general condition (79 per cent.); (3) that it often diminishes pain (50 per cent.); (4) that as regards the size of the tumors, its action is rarely efficacious (9 to 10 per cent.)”

*Proceedings of Societies, Boards, etc.***MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.**

January 8th, 1894. Dr. W. P. C. Hazen read a paper on **Observations on Puerperal Eclampsia, with the History of a Case.**

[See page 26.]

In opening the discussion, Dr. Bovée said that the principal point is to hasten excretions—namely, that of the skin by pilocarpin and hot baths. In his service at Columbia Hospital, he made use of a portable wood-fibre bath-tub, which was filled sufficiently with water at a proper temperature and rolled to bedside of patient, who was immersed in it for a few minutes—five to fifteen. She was then rubbed briskly and covered with hot blankets, either wet or dry. If little or no urine was excreted, dry cups were applied over the kidneys. The hot bath was occasionally used three or four times on a patient. Morphia, hypodermically, has not proved useful in his hands; nor has chloroform acted well. It will prevent convulsions, but almost or quite complete anæsthesia is required, and of course that cannot be continued indefinitely.

Another important matter is, whether in a given case labor should be terminated artificially. He has tried to form an opinion one way or the other, but has had as good results in waiting as in dilating with Barnes' bag or the colpeurynter and delivering by version or forceps. He would decide each case on its merits. He had had six successful cases in rotation, and thought he could master eclampsia, when a case came in one night, that grew worse and died. She had had convulsions thirty-six hours before admission, and her urine, when heated in a test-tube, would not escape if the tube was inverted. Shortly after his leaving the obstetric service, there were a few more fatal cases. He believes there will be cases absolutely incurable. Bitartrate of potash will often cause watery bowel movements and produce diuresis; other drugs have a similar action. Digitalis has no direct effect on the kidneys. Eclampsia does not necessarily presuppose uræmia.

Dr. E. L. Morgan remembers that his old teacher, Dr. Robert T. Coleman, of Richmond, Va., insisted on the importance to be attached to headache in pregnant women, which should be regarded with suspicion. He advocated

bleeding freely in certain cases. Bleeding is indicated by throbbing and congested vessels; it acted quickly and efficiently in all cases that had come under his observation. In a case where the patient was in a comatose condition from 12 o'clock until 3 the day following, he had bled and recovery was uneventful. Bromide of potash and hydrate of chloral act well. Hé thinks morphia is contraindicated.

Dr. Clifton Mayfield endorses what Dr. Morgan had said with regard to bleeding. He had found it of the greatest value, and believes that it is always indicated in plethoric individuals when the vessels are full and throbbing. In the anæmic, however, it is not justifiable. When employed, bleeding should be free. He had also found pilocarpin to be of service, and thinks it should be given a thorough trial in conjunction with bleeding, or alone in many cases where the latter is contraindicated.

Dr. Moran asked Dr. Morgan: "Why do you bleed?" and Dr. Mayfield answered, "To relieve the throbbing and congested vessels."

Dr. Moran then said that you diminish both the quantity and the quality of the blood. Could not this be obtained by other means, as by nitro-glycerine, if the object was to equalize the circulation? Nitro-glycerine stimulates the heart, relaxes the peripheral vessels, and would thus reduce the cerebral congestion. The question arising as to whether eclampsia is due to anæmia or hyperæmia, has not been settled. He had hoped that some new treatment would be advanced. The mortality from eclampsia was about 15 per cent., and in his opinion venesection had kept the mortality at this high figure. He has had cases improve under morphia and chloroform. Hysteria is sometimes pronounced. He remembered a case where bleeding might have been useful, but where dilatation and version had been employed.

Dr. I. S. Stone failed to understand how pressure of the large uterus could be a cause of eclampsia in a large number of cases. He knew of cases where multipara with large or even pendulous abdomens had eclampsia; also, in many cases œdema was present for several of the later months of pregnancy, apparently from pressure, yet without albuminuria or eclampsia. He advocated a return of venesection in many cases, for he had repeatedly seen prompt relief afforded by it, even after all other remedies had failed. He thought physicians too timid in regard to venesection. Many physicians would be perfectly at home in a bad case of post-partum

hæmorrhage or placenta prævia, who would be afraid to use the lancet.

Dr. Sothoron said that we overlooked the fact that if all albuminuric women are not eclamptic, all eclamptic women, with a very few exceptions, are albuminuric, which shows that eclampsia is only a manifestation of albuminuria in women during pregnancy. We should keep the urine free from albumin by frequent examinations, say every week or ten days, as he knew of several cases where the urine became albuminous a few days after the treatment was stopped. Dr. Morgan had said in his case the woman did not have a post-partum hæmorrhage, but that she lost a great quantity of blood. This, he thought, was nature's method of venesection, which no doubt saved the woman's life. He is a very strong advocate of venesection in certain cases. If we have an eclamptic patient, with a strong, rebounding pulse—a plethoric diathesis—the removal of a pint or more of blood certainly does good, but on the other hand, to remove blood from a pale, anæmic patient with a weak, thready pulse, certainly does harm.

He agrees with Dr. Morgan as to the value of bromides and chloral per rectum. He believes in bleeding in many cases, but has not had cases that he thought proper ones for that treatment. He recalled cases where he had used stimulants successfully. He remembers one in particular that Dr. Reyburn and he had attended. He believes, as most cases of eclampsia occur in primiparæ, that Dr. King's theory of pressure upon the renal vessels is quite well founded, and that the pendulous abdomen cases Dr. Stone mentions are not primiparæ, and hence not so common as those with tense abdomens. He thought that if we treated enough cases we were bound to have some fatal ones—particularly fatal to the child.

Dr. Bently said: If Professor Lusk is correct in stating that eclampsia occurs once in five hundred confinements, we certainly have more than our share of cases in this locality. In all cases of eclampsia he had seen, bleeding would have been justifiable. Chloroform and bleeding are better than morphia.

Dr. Johnson Eliot read a paper on

Foreign Bodies in the Upper Air Passages. [See page 41.]

Dr. Clifton Mayfield desired to briefly refer to two cases that point to the necessity of care in the search for foreign bodies. In one case the fin-bone of a fish had been driven

by muscular action into the mucous membrane at the side of the tongue, and just in front of the post faucial pillar, as neatly as a nail might be driven into wood, and was so deeply imbedded that the projecting head, when brought into view, looked like a mere speck of mucus. In a second case a splinter of beef bone one-eighth of an inch thick and at least one and a quarter inch long, was fixed antero-posteriorly in the left side of the larynx, and so completely overlapped by the ventricular band as to be completely hidden from view. Only during phonation was about one-fifth of its length visible.

In both cases ordinary examinations might have satisfied him that the foreign object existed only in the imagination of the patient.

Meeting of February 12, 1894.

Dr. Jas. D. Morgan read a paper on

Need of Care in the Diagnosis of Spitting of Blood. [See page 66.

Dr. Clifton Mayfield, in opening the discussion, said that in cases of hæmorrhage arising in the course of marked carcinoma or ulcer of the stomach or from ruptured aneurism or extensive pulmonary destruction, the evidence of pre-existing disease is so marked as to make a differential diagnosis easy. Hæmorrhage from the stomach may be rapid, and the vomited blood but slightly acted upon by the gastric juice, and show but little trace of food. There may be also cough accompanying the retching. Blood from the nose-dropping into the pharynx may likewise produce cough and retching or vomiting. Vomiting, too, not infrequently accompanies the cough in pulmonary hæmorrhage, and where the bleeding is marked, it may show but little of the characteristic frothy appearance. It is in such cases that the greatest difficulties in diagnosis arise. Bleeding from the nose may be detected by rhinoscopic examination and by the escape of blood from the anterior nares when the head is held well forward. Hæmorrhage from the stomach is very rare without some evidence of accompanying disease of that organ, especially pain, and the blood is usually dark in color.

Not an inconsiderable number of cases of tuberculosis are first brought to the attention of the physician by the occurrence of hæmorrhage, and care in examination will show diminished resonance and voice sounds and the presence of

râles. In many cases, too, bleeding occurs without any evidence of existing disease, and *may* subside, leaving the patient in as good condition as before its occurrence, without lung involvement. More frequently, however, such hæmorrhage seems to be the starting point from which begins the subsequently advancing phthisis. Absence of all physical signs in cases of hæmorrhage which, by exclusion, may be certainly referred to the bronchial mucous membrane, make necessary continued observation of such patients that tuberculosis may be prevented if possible, or the first signs of the trouble actively treated.

Within a few days past, he was visited in his office by a florid and robust man of 23 years, who gave a history of profuse hæmorrhage, occurring first about one month ago, which was repeated on both the day preceding and the day of his visit. He claimed to be in perfect health except as to the hæmorrhage.

He stated that the amount of blood lost each time was about one pint (?), and that it was preceded by a sense of sub-sternal tickling. Examination of the fauces and post-nasal cavity showed everywhere congested mucous membrane. In the naso-pharynx, he detected a moderate-sized spot, from which blood had been apparently oozing, but the space was clear of blood at the time.

Laryngoscopic examination gave negative result. The irritation caused by the mirror in the throat excited slight cough, which was followed by a moderate expectoration of frothy light-colored blood. Careful examination of the chest failed absolutely, however, to detect any signs whatever of tuberculosis, or of the presence of fluid in the bronchi, and yet, by exclusion, he was forced to accept a diagnosis of bronchial hæmorrhage.

The case will be kept under treatment, and carefully watched for earliest indications of tubercular trouble.

Dr. McArdle said he thought all the points in the paper were well taken, and the subject fully covered. As an instance of the difficulty of making a correct diagnosis in all cases of spitting of blood, he narrated the history of a patient in whom the speaker failed to find the bleeding point, after a most careful and thorough examination. As to sequences and prognosis, Dr. McArdle thought there were many cases during the prevalence of catarrhal influenza in which hæmorrhage from the congested mucous surfaces, lasting, at intervals, for two or three days, seemed to be more beneficial than harmful to the patient.

Dr. John F. Moran read a paper on

Antagonism of Erysipelas in Disease. [See page 59.]

Dr. McArdle said he was much interested in the paper just read, and he had followed it closely in order, if possible, to learn the cause or rationale of the antagonism between erysipelas and pneumonia. He had not been convinced by Dr. Moran's line of argument that such an antagonism really existed. Dr. McArdle regretted to have to report the case of a child, who died from erysipelas, supervening upon an attack of pneumonia. It must be remembered, however, that erysipelas of the face and scalp is an especially fatal disease in very young children.

Dr. E. L. Morgan said he had a very bad case of diphtheria, and during the progress of this disease erysipelas appeared upon the upper half of the face on both sides, and also around the patellæ on both limbs, to the extent of three inches, in a child of six or seven years of age. The erysipelas did not affect the course of this disease, which was severe and protracted. In five or six weeks, paralysis occurred in the lower extremities, palate, etc.

Analyses, Selections, etc.

Another "Sure Cure" for Consumption.

Dr. Giovanni Carasso, of the Italian army, comes forward with a treatment for pulmonary tuberculosis which, he says, not only checks the disease in its incipency, but cures it even where there are large and numerous cavities in the lungs. Beechwood creasote, by itself, is useful in the early stages of consumption, but it does not fulfill expectations when cavities have formed. Since 1888 Dr. Carasso has employed a method of treatment that has given very gratifying results. It consists in the continued inhalation of oil of peppermint, associated with the internal use of an alcoholic solution of beechwood creasote, mixed with glycerine and chloroform, to which 1 per cent. of essential oil of peppermint is added.

The originator of the method says that it has been crowned with the most splendid results, not only in the first stage of the disease, but also in extremely advanced cases. In every case the disappearance of the tubercle-bacilli from

the sputum was noted, which took place in periods varying from thirteen to sixty days. As a consequence, the cough and expectoration diminished, the night-sweats ceased, and the general nutrition improved; the weight increased while hyperalimentation was practised. Little by little the physical signs underwent a change; the normal percussion-sound was heard in the places at first diseased, and the vesicular murmur returned; in a word, all the signs of a complete *restitutio ad integrum* were present. When the lung-trouble was accompanied by fever, this latter disappeared in a few days. These very beautiful results were obtained in not less than thirty-nine cases of tuberculosis in all stages, but chiefly when the lesions were confined to the lungs alone.

Our hopes have been raised up and cast down so often that we may be pardoned for being a wee bit skeptical, while bearing in mind, however, that a wholesome skepticism does not justify us in withholding from our patients the benefits of a plan of treatment that seems to have given good results in the hands of some competent observer—*N. O. Med. & Surg. Jour.*, March, 1894.

Permanganate of Potash Antidotes Morphine.

Dr. William Moor, of New York, N. Y., gave an account (*Med. Record*, Feb. 17th, 1894,) of his various tests and observations, proving that any amount of morphine is decomposed by the same quantity of permanganate of potash, and thus rendered harmless in the human system. Of course, the whole article presupposes that the morphine has been taken by the stomach, and that the antidote is promptly taken before the absorption into the system of the fatal doses of the morphine. It is well always to use larger quantities of the antidote than the supposed quantity of the opium taken. Thus, if eight to twelve grains of morphine have been taken, administer as soon as practicable fifteen or more grains of the permanganate in solution, and repeat at short intervals three or four times. In short, where there is suspicion that a quantity of morphine or its equivalent of a preparation of opium has been taken, a corresponding amount of the antidote must be administered to prove efficacious.

Having satisfied himself that he had discovered that permanganate of potash is a complete antidote for morphine—grain for grain—Dr. Moor experimented on himself in the presence of competent witnesses, first swallowing much

more than an ordinarily fatal dose of morphine solution, and in a short while, before the opiate could narcotize, he took solutions of the potash salt. For the several hours succeeding, in which he was kept under the watchful care of able physicians, not a sign or symptom of morphine action presented itself, nor were there any subsequent signs.

Dr. Glenn Andrews, of Montgomery, Ala. (same journal, March 10,) severely criticises the statements of Dr. Moor; and (in the same journal, Feb. 24th,) the statement is made that, according to the *Journal de Pharmacie*, of Alsace-Lorraine, an Alsatian pharmacist, M. J. Althal, had discovered that permanganate of potash acts as an antidote to phosphorus, muscarine, strychnine, colchicine, oil of sabine, and oxalic acid. To convince himself of the correctness or error of such a claim, Dr. Moor made tests which show that permanganate of potassium has no effect on phosphorus in the presence of other organic matter; nor has it any antidotal effect on strychnine in the presence of albumin; furthermore, that albumin, peptone, etc., would deoxidize permanganate of potash before it could have any effect on oxalic acid; and as to colchicine (the acetic extract of colchicum was used in experiments), the reaction between the latter and the permanganate is not rapid enough to be of any value in the presence of albuminoid bodies in the stomach.

It does seem, from an unbiased review of the experiments, that Dr. Moor has made an invaluable discovery—that permanganate of potassium is an antidote for morphia and opium poisoning—provided, of course, the permanganate be given promptly—before absorption of enough by the stomach to produce fatal narcosis—and in doses large enough and frequently enough, as stated above.

Abortive Treatment of Gonorrhœa by Permanganate of Potash.

Large injections of permanganate of potash methodically used is the best method of treatment yet introduced. Its advantages are, being absolutely painless in cases of anterior arthritis, and scarcely painful in cases of inflammation of the whole tract; it can be commenced or left off without inconvenience; it has no detrimental action on the mucous membrane, but suppresses every trace of discharge from the first lavage, and is successful about eleven times out of fifteen. The size of the injection, and its frequency and strength, must be adapted to individual cases. Generally, strengths of 1 to 4000, or 1 to 2000, or even 1 to 1000, are tolerated.—*Revue de Therap. Med. Chir.*—*Times and Regis.*, April 7, 1894.

Iodide of Thalline for Cancer.

According to *Times and Register*, April 7th, 1894, Dr. Mortimer Granville, of London, re-asserts that "papain in conjunction with iodide of thalline is beneficial and even curative of scirrhus. He attributes his success to the destruction of the locally proliferating and wandering leucocytes. Leucocythæmia, gout, osteo arthritis and cancer are different developments of the same initial fault, namely, aberrant growth and multiplication, with morbid activity of protoplasmic leucocytes, showing a marked increase in the output of uric acid, due, he believes, to the augmented metabolism of leucocytes, whence uric acid has its source. At all events, the remedy is harmless, and may possibly do good in well-marked cases of carcinomata. Tumors he believes malignant have disappeared under its use, and have not relapsed—although some cases of malignant ulceration of the uterus have not received benefit. He says he has cured malignant cases—especially some recent ones—in which the growth has diminished, and even disappeared in a remarkable manner. He now thinks that "the benefit is due to the thalline rather than the papain." He has given iodide of thalline in four-grain doses with a grain of musk (to prevent the prescriber [?] from fainting) every second or third hour of the day throughout the treatment, and nothing else.

The unfortunate part about iodide of thalline is its chemical name, which is stated to be iodo-tetra-hydro-methyloxy-chinoline.

Paper Handkerchiefs for Consumptives.

The amount of phthisical infection conveyed to the laundry in the clothing and linen of consumptive patients must be, in the aggregate, something enormous. Fortunately, no doubt, the greater number of the specific bacilli are destroyed in the process of washing. Nevertheless, there can be little doubt that infection is, at times, spread from the laundry. Handkerchiefs are specially liable to be charged with phthisical sputa. There can be no excuse, however, at this time of day, for sending handkerchiefs to the wash charged in this way with dangerous seeds of disease. Long ago the use of soft paper handkerchiefs, sent from Japan, was introduced to the profession. They can be procured at trifling expense, at a less cost, indeed, than that incurred for the washing of an ordinary linen handkerchief. The paper substitute can be burned when done with, and the disease germs

are thus effectually disposed of. Nothing can be more distressing to the zealous sanitarian than the reckless way in which the specific poison of phthisis is scattered broadcast among our communities. Prompt and absolute disinfection or destruction of all excreta should be the rule in all cases of consumption. Before we can hope to reach such a stage of enlightenment, however, the popular mind will have to be educated up to the requisite pitch. A crusade against so terrible a scourge as consumption might well be included within the scheme of any lay newspaper boasting of an advanced social programme.—*Med. Press*, March 28, 1894.

Anæsthesia by Cocaine Deprived of its Disadvantages by Trinitrine.

Dr. Gautier (*Wien. Med. Presse*, No. 47, 1893,) recommends the addition of trinitrine to solutions of cocaine in order to render anæsthesia by this drug innocuous.

R_y.—Cocaine muriate (grs. iij).....dgms. 2
 Alcoholic sol. trinitrine (1.100).....gtts. x
 Distilled water (3ijss.).....gms. 10

A hypodermic syringe of this solution contains two centigrams ($\frac{1}{50}$ gr.) of cocaine and one drop of the trinitrine solution. He has used this solution for two years without the slightest disadvantage. Thomas, of Marseilles, has employed this same solution in anæsthesia of the fauces and larynx. In three cases where a 10 per cent. solution caused grave symptoms of poisoning this preparation was used with success. In all cases it was well tolerated. His solution was made according to the following formulæ:

R_y.—Muriate of cocaine (grs. xlv.).....gms. 3
 Alcoholic sol. trin. (1.100).....gtst. xl
 Distilled water (3j).....gms. 30

Local application to the pharyngeal or laryngeal mucous membrane does not produce the well-known sensation of dryness which is usually observed with the use of cocaine, but an agreeable feeling. Trinitrine does not appear to reduce the anæsthetic and vaso-constrictive action of cocaine.—*Lancet-Clinic—St. L. Med. Era*, March, 1894.

Deodorizer of Iodoform.

The *Maryland Medical Journal* (April 7th, 1894,) quotes the *Norsk Magazin for Lægevidenskaben*, No. 3, 1893, as authority for the following formula to deodorize this most

valuable agent, without interfering with its local therapeutic uses:

Iodoform.....	gms.	197.	(3vj)
Carbolic acid.....	gm.	1.	(gtt. xv.)
Peppermint oil.....	gm.	2.	(f. 5ss)—Mix.

Antiseptic Powder.

Dr. Albert Pick, of Boston, says (*N. Y. Med. Jour.*, April 7, 1894,) he uses the following antiseptic powder wherever usually iodoform is employed:

R _y —Hydrarg. chlorid. corros.,	gr.	$\frac{1}{5}$
	(or gr.	$\frac{1}{3}$
Acid boric.....	5j	.
Acid tannici.....	gr.	x
Sacchar. lact. q. s.	5ij	

Mix the sublimate very gradually and carefully with the sugar of milk, and then add gradually the other ingredients so as to be certain to obtain a uniform distribution of the bichloride in the mixture.

A *fifth* of a grain of corrosive sublimate in this mixture gives the powder a strength of 1:5000, while a third of a grain gives 1:3000. So that, if even one-fourth of the entire powder (1:3000) be absorbed by a human adult, no harm can result. The above mixture is a more reliable antiseptic powder than any iodoform preparation, and has no odor.

Book Notices.

Manual of Therapeutics. By A. A. STEVENS, A. M., M. D., Lecturer on Terminology and Instructor of Physical Diagnosis in University of Pennsylvania, etc. Philadelphia: W. B. Saunders. 1894. Small 8vo. Pp. 435. Cloth, \$2.25.

This is practically an excellent students' manual of modern therapeutics—an outline to be filled in by lecturers and the study of larger works. Classification of drugs by their physiological action or therapeutic application is at present scarcely possible. So that the author has done well simply to define such terms as expectorants, antispasmodics, etc., and then gives lists of drugs usually employed as such expectorants, etc. The chapter on "Incompatibility in Prescriptions" is a useful one, and has been contributed to the book by Dr. Joseph W. England. Each drug is considered alphabetically.

International System of Electro-Therapeutics for Students, General Practitioners, and Specialists. By HORATIO R. BIGELOW, M. D., and *Thirty-Eight Associate Editors*. Thoroughly illustrated. Large Royal 8vo. 1160 pages. Extra Cloth, \$6 net; Sheep, \$7 net; Half Russia, \$7.50 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street.

If our own observations had not long since confirmed many of the valued uses of electricity in the treatment of surgical diseases, etc., we would be compelled to recognize that electro-therapeutics has a firm foundation and a most important rôle of usefulness, after we have examined this most excellent volume. Such eminent men as Drs. Massey, Engelmann, etc., would scarcely lend the mighty influence of their great names as Associate Editors to such a work as this unless they had confirmatory experience. If electricity has lost cases for the surgeon, there can be no question as to whether or not surgeons have done mutilating excisions, amputations, etc., that could have been cured by the less severe methods of electricity. This *International System* is copiously illustrated, and the full chapters are all well written both as to conciseness and careful selection of correct language to convey the proper meaning. We have not space to call attention to any special points of discussion as to what electricity can or cannot do; but the purchaser may feel assured that the latest advances are herein well described. In short, any one having electro-therapeutic appliances and wishing to perfect himself by books in the absence of experience, cannot do well without this *System*—either for reference or text-book.

Syllabus of Obstetrical Lectures in the Medical Department of the University of Pennsylvania. By RICHARD C. NORRIS, A. M., M. D., Demonstrator of Obstetrics University of Pennsylvania, etc. *Third Edition*. Philadelphia: W. B. Saunders. 1894. Demi-8vo. Pp. 222. Interleaved. \$2 net.

Such a Syllabus of the complete course of lectures by an author so well qualified to deliver them is alike instructive for the student and valuable for the practitioner. A good index greatly assists in looking up references to the proper page, etc. Between important pages, blank leaves are inserted so as to enable the student to take such notes explanatory of the text as he may think proper. It is a good book—up to the times—for those who may wish to review with regard to a fast approaching State Board Medical examination, etc.

Manual of Minor Surgery and Bandaging. By CHRISTOPHER HEATH, F. R. C. S., Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College, London, etc. *Tenth Edition.* Philadelphia: P. Blakiston, Son & Co. 1894. Cloth. 12mo. Over 400 pages. \$2.00. (For sale by West, Johnston & Co., Richmond.)

The fact that this *Manual* has held its own for over thirty years among standard books designed for the use of house-surgeons, dressers, and junior practitioners, is evidence of its popularity, and that each successive edition has kept pace with the advances of the times. The present edition embodies the latest teaching as regards antiseptics. After a statement of the duties of the house-physician to various other personages in a hospital, etc., 13 other well-prepared chapters are introduced—treating, in great part, of surgical emergencies, minor operations, etc. Nearly 160 well-drawn wood cuts are introduced, which greatly assist the understanding of the text. It is an excellent *Manual* for the practical purposes referred to in the title.

The Physician's Wife, and the Things that Pertain to Her Life. By ELLEN M. FIREBAUGH. With Portrait of Author and 44 Photo Engravings of Original Sketches. Crown 8vo. 200 pages. Extra Cloth, \$1.25 net. (*Special Limited Edition*, first 500 copies, numbered, and printed in photo-gravure ink on extra-fine enamelled paper; bound in Half-Leather and Vellum Cloth, \$3 net.) Philadelphia. The F. A. Davis Co. (For sale by J. W. Randolph Co., Booksellers, etc., Richmond.)

This is a very readable book—narrating many experiences and observations common in the doctor's family. Sometimes it brings back the pleasures of memory, and provokes the smile; at other times, it compels reflection, and even chastens the feelings with emotions of regret that other days cannot be gone over again. It shows how the doctor's wife can make herself an essential help to his success, and how, in many ways, she can be a drawback. When we say that this is, in every respect, for the doctor's wife, as clever a book as "The Physician Himself and the Things that Concern his Reputation and Success," we have expressed our very highest appreciation of the objects, the merits, and the excellence of the work. It is issued in the usual good style of the popular Publishing Company.

Holden's Manual of the Dissection of the Human Body. Edited by JOHN LANGTON, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, etc. *Sixth Edition. Revised by A. HEWSON, M. D., Demonstrator of Anatomy. Jefferson Medical College, Philadelphia, etc. 311 Illustrations.* Philadelphia: P. Blakiston, Son & Co. 1894. Cloth. Small 8vo. Pp. 803. \$3. (For sale by West, Johnston & Co., Richmond.)

This has been a standard work since 1851—each successive edition being an improvement on the preceding as to the correction of proof, and as to additional matter considered essential to make the work more perfect. The more minute and intricate points are stated in small type—thus, at a glance, assisting the student to separate that which is necessary from that which he may study at some more convenient season than when in the dissecting-room. A previous knowledge of the bones is presupposed on the part of the dissector; hence the *Manual* has nothing about osteology. The author possesses the gift of imparting information relating to usually considered dry details from the standpoint of their practical importance in medicine or surgery; hence he gives an interest to the reading of his pages which is not generally considered possible by most students who have not adopted his methods. The drawings are all good, and well illustrate the points being described. We are a little surprised that this standard "Manual" is not better known to the profession.

Practical Treatise on Medical Diagnosis. By JOHN H. MUSSER, M. D., Assistant Professor of Clinical Medicine in University of Pennsylvania, etc. *Illustrated with 162 Wood-Cuts and 2 Colored Plates.* Philadelphia: Lea Brothers & Co. 1894. 8vo. Pp. 881. Cloth, \$5; Leather, \$6.

This is a most valuable contribution to the libraries on Medical Diagnosis. It is a presentation of the uses of various instruments and methods of precision as aids to direct diagnosis rather than statement of extended lists of minutiae as guides to differentiation. Bacteriological diagnosis is well presented. Of course anatomical and physiological diagnosis are made distinctive points. To the practitioner who is acquainted with the various functional centres of organs, nerves, etc., or who values the microscope, the sphygmograph, etc., or who knows how to cultivate and recognize bacteria, this work is very useful. To the young doctor it is invaluable, for there can be no question that the result of this

progressive generation of medical students will soon lead to many advances based solely on the results of precise information derived from instruments and laboratory work. The old methods are passing away by supplantation with new, easier, more direct and more accurate methods of investigation. Formerly, it was inductive reasoning; now, it is positive and direct information, which is being required. "Musser's Diagnosis" will take its position among the standard medical books of this period.

Editorial.

University College of Medicine, Richmond, Va.

The first advertisement of this institution appeared last July. Its University feature consists in the three schools of Medicine, Dentistry, and Pharmacy. During the session begun last October, there were 125 matriculates. Being a three years' graded course, it was a remarkable success to have had ten medical graduates of the students who had attended the required number of sessions in other Colleges recognized by the Association of Medical Colleges of the United States, of which the University College of Medicine, Richmond, Va., is a member. The first annual Commencement exercises were held in Richmond, Va., April 5, 1894. The President, Dr. Hunter McGuire, conferred the degree of Doctor of Medicine upon the following gentlemen: C. M. Alfred, Jno. Lawrence, of Ohio; Hugh McGuire, Richmond; H. S. Cumming, Hampton; Richard T. Davis, Loretto; W. O. McCabe, Davis Mills; C. B. Nuckolls, Gambetta; Robt. C. Randolph, Boyce; B. K. Hays, of North Carolina; and S. C. Warner—moved to Texas. The Address to the graduating class was delivered by Hon. F. H. Busbee, of Raleigh, N. C., who made a most happy selection of subject suited to the occasion, and sustained the reputation long ago established for himself of a strong, impressive, and popular speaker. His attractive, graceful delivery enchained the attention of the crowded audience for about forty minutes. The awarding of Prizes was then made as follows: First Honor Medal (Faculty Prize), to Dr. John Lawrence, by Prof. Thomas J. Moore; Powers-Taylor Drug Co. Prize, for best Essay on Typhoid Fever, to Mr. Geo. P. Reid, of North Carolina, by Prof. J. Allison Hodges; Bartlett, Garvens &

Co.'s Prize, to Dr. John Lawrence, by Prof. W. T. Oppenheimer; Toxicology Prize, to Dr. Hugh McGuire, of Richmond, by Prof. Charles H. Chalkley; Valentine Meat-Juice Co.'s Prize, to Mr. A. S. Kemper, of Virginia, by Prof. Jacob Michaux. The Pharmacy Faculty Prize, to Mr. C. L. Link, of Virginia, by Mr. R. W. Powers. We understand that seven of the graduates have received the promise of hospital appointments.

The graduates organized an Alumni Association, Dr. Hugh McGuire being chosen President for the first year.

A reception was given by Dr. Hunter McGuire at his residence to the orator of the evening, Hon. Mr. Busbee, to the graduates in the several schools, to the Professions, to the Boards of Directors of the University College of Medicine, and of the Virginia Hospital, etc., which was a handsome entertainment and heartily enjoyed.

The promises of a very much enlarged class next fall are so flattering as to compel the Faculty to appoint a committee to arrange for the addition, during the spring and summer, of more capacious lecture halls, etc. to the present buildings.

Medical College of Virginia.

During the commencement exercises, April 3, 1894, concluding the fifty-sixth annual session, there were twenty-five graduates as doctors of medicine, as follows: L. D. Batkins, F. H. Beadles, C. B. Brock, W. R. Clements, W. H. Kable, B. L. Reams, Charles R. Robins, R. B. Teusler, J. B. Bailey, J. E. Booth, L. C. Brock, G. T. Collins, F. F. Davis, S. H. Graves, W. H. Gwathney, T. S. Henning, T. D. Hutton, John Mann, W. R. Patton, G. W. Scott, H. S. Smith, G. J. Tompkins, D. F. Weaver, of Virginia—the eight first named being from Richmond—and Joseph Dixon and W. E. Evans, of North Carolina. During the session there were about ninety-five matriculates. Rev. Dr. James Atkins, of Asheville, N. C., delivered the Address to the Class—his subject being Oliver Cromwell. Six or seven of the graduates received the usual hospital appointments. A number of Prizes were awarded to those gentlemen of the classes who deserved them. The Prizes were contributed by Messrs. Bartlett, Garvens & Co., Valentine Meat Juice Co., Messrs. Purcell, Ladd & Co., of Richmond, and by members of the Faculty, etc. A banquet was given the Alumni and guests after the Commencement exercises, during which good toasts were given and well responded to by the several speakers.

The Alumni Association held its meeting during Tuesday. Dr. J. S. Wellford opened the subject for discussion, "Albuminuria," in well-arranged remarks. The officers for the ensuing year were then elected—Dr. Wm. A. Thom, Jr., of Norfolk, Va., President—and the session adjourned in the afternoon.

Suit of W. R. Amick vs. J. C. Culbertson.

If any one should need information as to the character and methods of Dr. Amick, of the "Consumption Cure Company," let him read the testimony given before 'Squire Cass, as published in the *Cincinnati Lancet-Clinic*, April 7th, 1894. W. R. Amick himself admits that he conforms to his own definition of a quack. He admits that his claim to have a cure for consumption, in the majority of cases, refers to only twenty-five per cent. (What becomes of the seventy-five per cent.?) He admits that two bogus dispatches were gotten up in New York, and sent to 200 newspapers in New York, as advertisements, and appeared as such, and yet sees nothing out of the way in that (!). Much evasive testimony is also given by the same witness. Valuable testimony for defendant is given by such prominent doctors in Cincinnati, where all parties are well known, as Drs. J. T. Whitaker, David Debeck, Charles A. L. Reed, C. G. Comegys, John A. Murphy, etc.

The Maryland Amended Medical Act,

Regulating the practice of medicine, etc., in that State, has passed both branches of the Maryland Legislature, and by the time this issue reaches its readers, will no doubt have the signature of the Governor, thus making it a law. Quacks and charlatans must soon go to the islands of the sea to find a home where they may lawfully practice their trickeries. Any State must be woefully ignorant of its own interests that longer postpones acting for its own protection against rejected applicants for license fleeing from other States.

Medical Association of Georgia.

The forty-fifth annual session will meet in Atlanta, Ga., on April 18th, 19th and 20th, 1894. The officers are: President, Dr. W. H. Elliott, of Savannah, Ga.; Vice-Presidents, Drs. G. T. Miller, of Americus, and P. H. McHatton, of Macon; Treasurer, Dr. E. C. Goodrich, of Augusta; Secretary, Dr. Dan H. Howell, of Atlanta, Ga.

Virginia State Veterinary Medical Association.

At the last session of the Virginia Legislature, veterinarians of this State secured an act to incorporate the *Virginia State Veterinary Medical Association*. The first meeting of this Association as a corporate body was held in Richmond, Va., Thursday, March 22d, 1894. Representatives of the veterinary profession were present from all parts of the State, and letters or telegrams were read from others who could not attend. Much business of importance was transacted. A constitution, by-laws and a code of ethics were adopted. Important committees were appointed, and the work of the Association was thoroughly outlined.

The election of officers resulted as follows: W. H. Harbaugh, V. S., of Richmond, President; Prof. E. P. Niles, of Blacksburg, First Vice-President; J. H. Adamson, of Norfolk, Second Vice-President; A. W. Swedberg, of Richmond, Secretary; T. A. Donaldson, of Richmond, Treasurer.

Graduates only of recognized veterinary and medical colleges are eligible to membership, and it is the aim of the Association to elevate the standard of veterinary science as well as to aid in the advancement of all true medical knowledge.

The next meeting will be held at Norfolk on August 15th. Prof. E. P. Niles was appointed to read a paper on tuberculosis, in which he will give special attention to the intercommunicability of this disease between man and the lower animals.

Dr. George C. Faville was appointed to read a paper on *Malade du Coit*, or equine syphilis, which will be further demonstrated by many pathological specimens and notes from his own investigations.

Members of the regular medical profession are cordially invited to be present.

The Association of American Medical Publishers

Will hold a meeting in San Francisco during the week of the session of the American Medical Association in that city—June 5th, 1894. A fuller notice of the purposes of this meeting will be issued in our May number. In the meantime, we would urge the Publishers of all reputable medical journals in this country to take an active interest in this organization, and not delay in forwarding their applications for membership to the Secretary, Mr. Chas. Wood Fassett, St. Joseph, Mo.

The Medical Examining Board of Virginia

Will hold its first semi-annual examination meeting for 1894 in the Hall of the House of Delegates, Capitol Building, Richmond, Va., beginning Wednesday morning at 9 o'clock April 18th and 19th. As matters of importance will be brought up, it is desired that there shall be a full meeting of the Board of Examiners Tuesday night, April 17th, in the same Hall. See advertisement page 65.

Medical Society of Virginia.

The Twenty-fifth Annual Session of this State Society will be held in Richmond, Va., October 23rd-25th. A meeting of the physicians of Richmond and Manchester has been held to take the preliminary steps looking to a full and profitable scientific meeting. As arrangements develop, notices will be made in this journal. In the meantime, attention is called to the advertisement page relating to the Essay Prizes offered by Drs. Hunter McGuire, Joseph Price, and Herbert M. Nash.

The National Association of Railway Surgeons

Will hold its meeting in Galveston, Texas, May 8th, 9th, and 10th. While a large attendance and a most important scientific session are expected, it would be well for parties intending to attend to write in advance to secure accommodations, as the hotel capacities will be crowded if such a full attendance as that at Omaha last year is had. Dr. Reid as Secretary and Dr. Galbraith as President, as well as the local Committee of Arrangements, deserve great credit for having done so much to secure a grand success.

The American Medical Association

Will meet in Odd Fellows Hall building, San Francisco, Cal., at 11 A. M., Tuesday, June 5th-8th, 1894. Palace Hotel—four blocks away—will be headquarters—the Registration Room being in "Marble Hall." Special rates have been secured at the principal hotels—some on American and others on European plan—from \$1 to \$5.50 per day. Members may have letters, etc., addressed to them while in San Francisco to Postoffice, Section K, Dr. R. H. Plummer, San Francisco, Cal., is the address of the Chairman of the Committee of Arrangements. The railroad cost of the round trip to San Francisco will be, from points on the Missouri River, \$65.50; from St. Louis, Memphis and New Orleans, \$77.50; from Chicago, \$85.50. We presume sleeping-car fare is extra.

The Medical and Surgical Reporter, of Philadelphia,

Has a department of "Current Literature Reviewed," which is excellent as it is—the best we know of in any medical journal—but which suggests the great need in this country of one journal devoted exclusively to synopsis and reviews of all current articles of value in each of the many regular medical journals of the United States. To represent our meaning more exactly, we would refer to this department in any of this year's issues of this time-honored journal, so ably conducted by Dr. Elliston J. Morris. It would require a large capital and an able corps of collaborators, it is true, to carry out the plan; but we are sure it would well repay an enterprising firm. In thus referring to the *Medical and Surgical Reporter*, we would call attention to the fact that its subscription price has been lowered to three dollars a year, in advance, while it continues to be as high standard and valuable a weekly journal as it has been for years past.

The Association of Acting Assistant Surgeons

Represents those private physicians who were employed as medical officers, U. S. Army, during the late war, and served under orders of superior officers as such, agreeably to Army regulations. They performed exactly the same duties, and were subject to the same control, as commissioned medical officers. These gentlemen, however, are debarred from admission to military organizations like the Loyal League and the Grand Army of the Republic simply because they were not commissioned as officers. They are, therefore, petitioning Congress to authorize the President to *commission* them as Acting Assistant Surgeons for the period they actually served as such without pay or allowance. Their petition seems fair and just, and we hope that all friends of the measure will promptly urge their Congressmen to act promptly in the matter. The President of the Association is Dr. D. S. Lamb, Washington, D. C.; the Registrar, Dr. J. S. McLain, Washington, D. C.; the Recorder, Dr. W. T. Parker, Groveland, Mass.

Chattanooga Medical College.

The fifth annual session concluded with forty-nine graduates in medicine, March 13, 1894. The first session graduated only five doctors. Its development into success within so short a while was to be expected under such leadership as it has.

Mr. Flower and the Virginia State Board of Medical Examiners.

We very much thank the "Editor's Table" of the *National Popular Review* for April, 1894, for calling attention to Mr. Flower's article in the *February Arena*. That this itinerant possesses shrewdness, there can be no question. About two years ago, he was sharp enough to find a flaw in the technicality of the Virginia law as construed by a Hustings Court as it then existed, and escaped the punishment intended for just such as he. Perhaps it was he who, more than any other, led to the present revision as published in our February number, with the amendment, as stated in the letter of Dr. Benj. Harrison, in this issue—correcting some erroneous opinions as to the wording of the bill, as passed. If such a man possessed the medical learning and ability that his advertisements claimed for him, it is passing strange that he did not offer to stand the plain practical examinations required of all persons who propose to begin the practice of medicine or surgery in Virginia. Mr. Flower well knows that the Virginia law simply requires a fair degree of scientific education on some of the fundamental studies essential to the qualifications of any man or woman, of whatever race or social rank or political cast he or she may be, before undertaking to deal with human life. It—unfortunately from our standpoint—does not even *require* the presentation of a diploma from any College or University before the party can be examined. It does require, however, that the applicant for license shall pass a satisfactory examination on points connected with anatomy, physiology, chemistry, toxicology, materia medica and therapeutics, hygiene and public health, obstetrics, practice of medicine and surgery, etc. There is no diversity of opinion regarding any of these except therapeutics. But as soon as the one under examination indicates his adherence to the homœopathic school, etc., that moment he is turned over to the homœopathic examiners for examination on therapeutics; for all schools of practice regard the standard of qualification as alike in all the other departments. What we want in Virginia is a profession of qualified practitioners—this and nothing more or less.

Rawley Springs, Va.

Mr. Watkins Lee, Proprietor of the "Alleghany," Goshen, Va., and of the Rawley Springs, Rockingham county, Va., begins advertising early. He realizes the fact that many seekers of health and pleasure resorts make their arrangements early.

Obituary Record.

Dr. James Parrish.

Dr. Paul B. Barringer, of the University of Virginia, as Chairman of the Committee, etc., appointed during the January (1894) session, has prepared the following memoir for the *State Board of Health of Virginia*, which was adopted unanimously:

There died, on the 21st of January, 1894, at his home, in Portsmouth, Va., Dr. James Parrish, an esteemed and much-loved member of this Board. While known to be in feeble health for some months, his many friends had hoped to see him improve and once more assume his pleasant relations and duties among them. Hoping as they were, against hope, his death came to them all as a shock.

Dr. Parrish was born in Portsmouth, Va., in 1839, and was therefore about fifty-four years of age at the time of his death. He was educated in the schools of his native town and at the Virginia Collegiate Institute. In the fall of 1857, he entered the Medical Department of the University of Virginia. He was graduated in 1858, in the same class with the late Dr. R. J. Freeman, of Memphis, Tenn.; Dr. John Ligon, of West Virginia; the late Dr. W. D. Tompkins, of Bedford, and others. Attending lectures at the University of the city of New York, he was graduated there in 1859, and served as interne for one year upon the house-staff of Bellevue Hospital, and then also a year in the Brooklyn City Hospital.

He had decided to locate in Helena, Arkansas, but the call to arms in 1861, brought him at once to his native State, and with a modesty that was an ever-present attribute throughout his life, he enlisted as a private in Company K of the Ninth Virginia Infantry. Such a medical education as his, and the benefits derived from such rare opportunities for clinical instruction, could not be wasted in the ranks; and at the early age of twenty-two years, he was recommended by the Army Board of Medical Examiners for promotion to the position of surgeon. He received his commission, with the rank of Major, November 21st, 1861, and served as regimental surgeon with the Forty-first Virginia Infantry till the fall of 1862, when he was attached to the Thirteenth Virginia Cavalry and made a brigade surgeon. In this capacity he served with General W. H. F. Lee's brigade (afterwards division) till the surrender at Appo-

mattox. After the war was over, he located in his native town and began the general practice of medicine. From this time until the end, he was "the beloved physician" and family adviser of a large portion of the best people of his city. Of tender heart and sympathetic manner, he endeared himself to his patients as few practitioners do; and he was followed to his grave by the grateful remembrance of a large community. Whatsoever of honors came to Dr. Parrish, came to him without solicitation—his natural modesty and retiring disposition preventing him at all times from pressing his own claims before others. Notwithstanding this, it fell to his lot to occupy many positions of honor in his profession, against whose members all doors for proper reasons are closed, other than for positions of trust in medical organizations. He was a member of the Port Quarantine Board; a member for years of the State Board of Medical Examiners; a Fellow of the Medical Society of Virginia—at times representing the Society in the National Association—and he was also an honored member of this body. Those of his colleagues who were thrown with him in the various meetings of the State Board of Health, cannot fail to deplore the loss of his conservative judgment, large experience with men and those better characteristics of heart, that added the cohesive element of harmony to all its workings. In conclusion, they must express their appreciation of the loss to this his native State, of an eminent practitioner, a zealous official, and an earnest advocate of the higher medical interests of the profession.

It is recommended that this memorial be spread upon the minutes of the Board, be published in the *Virginia Medical Monthly*, and that a copy of these proceedings be sent to the family of our lamented colleague.

P. B. BARRINGER, M. D.,
Chairman of Committee.

February 27th, 1894.

Dr. John Rauch

Died suddenly at Lebanon, Pa., March 26th, 1894. Dr. Rauch is well known throughout this continent as the late Secretary of the Illinois State Board of Health. His efforts in increasing the efficiency of the medical profession and in maintaining its dignity and honor have rendered incalculable service to the public. We have not heard the circumstances connected with his death. His home was in Chicago, Ill.

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Original Communications.

ART. I.—A Study of the Soil in Relation to Health and Disease.

By GEORGE M. KOBER, M. D., of Fort Bidwell, Cal.

The health of a locality is intimately connected with the character of the soil on which our habitations are built. This was recognized by the father of medicine, Hippocrates, who pointed out the relations of soil to certain fevers and their general effects on the constitution of man; and we know that over 2400 years ago attempts were made to drain the Pontine marshes and those of the Velubrum. All these efforts were based upon empirical knowledge; and although Lancise and Moscati, over one hundred years ago, made a microscopical examination of soil and the air condensed in rice-fields with a view of demonstrating the nature of malaria, it remained for Pettenkoffer to formulate exact methods, by which investigations of the soil, ground-air, and the ground-water and its fluctuations might be carried on, and their relations to health and disease—especially the infectious diseases—be explained. It is hoped that this arti-

cle may stimulate contributions to the geographical history of diseases in this country.

1. *Nature and Composition of Soil.*—By the term “soil,” we mean here the upper or superficial portion of the earth’s crust, which directly or indirectly supports animal and vegetable life, and which is therefore capable of affecting health by one or more of its properties.

All soils are composed of mineral, vegetable, and sometimes animal substances; and the character is largely influenced by the relative proportion of the different constituents, the dimensions of the fragments and the degree of their consolidation.

The mineral constituents of the soil may be derived from primitive rocks (granite, basalt, trachyte or porphyry), and stratified rocks like limestone, sandstone, slate and clay. Originally, they were all composed of sand and clay, and these constituents either occur alone or are intermingled in various proportions. The fine particles of soil are simply disintegrated rock, the result of the elements, and as the soil sustains vegetation, it is perfectly natural that it should also contain vegetable matter. Forests have been buried and again elevated, constituting *deposits*; *vegetable debris* is derived from plants, and is known as peat, humus, etc. In some places, especially in the sandy plains, near foot hills, the rain washes down finely-powdered debris and is filtered as it passes through the soil, so that each grain of sand may be *encrusted* with a film of vegetable matter.

The remains of animals are found in all but the primitive rocks; and whilst the animal constituents have generally disappeared, yet occasionally they have been distinctly traced even in the tertiary strata. On the surface, there is perhaps no soil which does not contain some animal matter.

These accumulations of rocks and soil form layers of various depths on the earth’s surface. In some localities, the impermeable strata crop out on the surface, whilst elsewhere they may be buried with loosely-consolidated material for a distance of a hundred feet or more—a matter of

importance in the question of wells, springs and ground air.

Comparatively speaking, even the hard rocks—granites and metaphoric rocks—cannot be considered impermeable; and between these, the dense rocks, the softer rocks and the loose soils covering them, we find, of course, different degrees of porosity and permeability. Delesse (*Bulletin Société Géol. de France*, 1861–1862, p. 64,) has shown that solid rocks may absorb water in the following amounts:

Granite	=0.06 per cent. to 0.12 per cent. of its weight.		
Slate	=0.19 per cent.	"	"
Sandstone	=0.66 per cent. to 13.15 per cent.	"	"
Basalt	=3.03 per cent.	"	"
Oolite	=3.29 per cent.	"	"
Limestone	=9.67 per cent. to 21.10 per cent.	"	"
Chalkstone	=24.1 per cent.	"	"

Since the water could only have entered the interstices before occupied by air, the figures demonstrate the relative porosity of these rocks. If, however, we apply the same test to weathered fragments or the disintegrated rocks, we find that whilst a solid piece of granite could only absorb 0.06 per cent. of its weight of water, granite, in the form of a powder, can take up 27 per cent. of its weight of water. Of the different kinds of soil which interest us most, the fine agricultural soils have the greatest number of pores, and gravel and sand the least number. The total number of pores varies in different soils, as follows: (Wolff, Flügge and Erismann.)

In fine garden soil,	64	per cent. of the total volume.	
In black sandy clay soil,	56.08	per cent.	" "
In fine sandy clayey soil,	55.3	per cent.	" "
In very clayey soil,	46	per cent.	" "
In sandy soil,	35.5	per cent.	" "
In sandy clay,	32.7	per cent.	" "
In average fine gravel,	35.3	per cent.	" "
In coarser gravel,	35.24	per cent.	" "

2. *Ground Air*.—The interstices and pores of the soil are necessarily occupied by air, if not by water. This air is called ground-air, and although connected and interchangeable with the atmosphere, differs in this, that it contains

less oxygen and more carbonic acid. Oxygen is present to the extent of 15–20 per cent. of its volume, whilst carbon dioxide may be present in from 1 to 25 volumes per 1,000 and more. This is due to the chemical changes which take place in the soil, in which oxygen is consumed and CO_2 is evolved. Apart from this, we find ammonia derived from decomposition in the soil or imbibed from the atmosphere, the amount has been estimated from 0.0089 to 1.20 mgrm. per cubicmeter. Carburetted hydrogen and hydrogen sulphide have also been found, and even coal gas, which had escaped from defective pipes.

Dr. Nichols made an interesting series of experiments on the ground-air in the back bay lands of Boston. In his first experiments the air was drawn from $3\frac{3}{4}$ to $5\frac{1}{2}$ feet; there was no hydrogen sulphide and only a little ammonia; the CO_2 was from 1.49 to 2.26 volumes per 1,000, and varied inversely as the height of the ground-water, which was very near the surface. This relation was not constant at a depth of 6–10 feet. These observations and those of Fodor, Fleck and others, indicate that at a depth of thirteen feet, the air of the soil contains enough carbonic acid to extinguish a light, and certainly would be irrespirable. When we consider the depth of some of our cellars, and the fact that cellar-air often enters the house, we see at once a good reason for cementing our basements; but apart from this, ground-air may also harbor micro-organisms and disease-germs, which have been liberated from dry or pulverized soil, adding additional elements of danger which will be referred to later.

The composition of ground-air is of special importance, because it is in continual movement and connected with the atmosphere, by which interchange of gases can take place and thus affect the air of our habitations. The movements of ground-air have been demonstrated by manometres, and are influenced by the diurnal variation of the temperature of the soil, the rain-fall, and the rise and fall of the ground-water. As the ground-water rises, it displaces

the air from the soil; when the water sinks, air enters to occupy its place.

Fodor considers these factors, as well as alterations in barometrical pressure, together with the action of winds forcing air into the strata, all more or less essential in the movements of ground-air; it must also be apparent that loose porous soils offer the least resistance to the movements of ground-air. Apart from this, other local conditions play an important rôle, especially when the soil is covered with a house and the building heated with a furnace placed in a basement not cemented; in such a case, the objectionable ground-air may be drawn from great depths. Indeed, it has been shown that coal gas escaping from pipes and prevented from exuding by frozen earth on the surface passed sideways for some distance into houses. The air of cess-pools and defective sewer-drains have likewise found their way into dwellings, and the examination of drains alone often fails to detect the cause. Houses erected over "made soil," usually formed of house refuse and dry rubbish, are notoriously unhealthy and justly attributable to the constant ascent of impure air from the impure soil below into the warm rooms acting as aspirators above.

3. *Ground-Water*.—Water is one of the constituents of soil; for it is almost invariably present in the form of moisture and ground-water. When the soil is simply moist, we know that air and water are both present; but when all the interstices are filled with water, we have liquid mud, and have reached what Pettenkoffer defined as ground-water. The moisture of soil depends on its capacity to absorb and hold water, and on the supply of water in the soil either from rain, irrigation or ground-water. Meister gives the following table, showing the capacity of different soils for absorbing water:

Sandy soil	has a capacity of	45.4	vol.	per cent.
Quartz sand soil	" "	46.4	" "	" "
Chalkey soil	" "	49.5	" "	" "
Blue-clay soil	" "	50.5	" "	" "
Gypsum soil	" "	52.4	" "	" "

Limestone soil	has a capacity of	54.9 vol. per cent.
Clay soil	“ “	60.1 “ “
Peat soil	“ “	63.7 “ “
Agricultural earth	“ “	69.0 “ “
Humus soil	“ “	70.3 “ “

Apart from the size of the fragments and the porosity of the individual particles composing it, the presence of organic matter vastly increases the absorbing and retaining powers of the soil. The chemical qualities of the soil likewise influence these properties. This is shown by the difference in quartz and clay soils, the grains of which have the same dimensions, but the former only absorb 3.66 vol. per cent., against 31.05 vol. per cent. of the latter. Whilst no soil is absolutely impermeable to water, for practical purposes they may be divided into *permeable* and *impermeable* soils. The former include chalk, sand, sandstone and vegetable soils; the latter, unweathered granite, trap, porphyry, gneiss and feldspathic rocks generally, also clay, slate, dense clays, hard oolite, hard limestone, etc.

The amount of rain which may pass into any given soil is of course influenced by the declivity and inclination of the soil, by the amount of evaporation, which is always greater in summer and during hot winds, and by the rapidity of the rainfall itself, which may be pouring down faster than the soil can absorb. Parkes estimates that on an average about 25 per cent. of the rain penetrates into the sand rock, 42 per cent. into the chalk, and from 60–96 per cent. into loose sand formations. The remainder evaporates or runs off the surface by natural drainage. It will be readily understood that by capillary attraction the upper layer of the soil may be kept moist from the subterranean water, even though evaporation is constantly going on at the surface; and this process is important from a hygienic point of view, because it attracts the moisture from deeper layers and may thus carry micro-organisms to the surface, which, if the evaporation goes on to the extent of dryness, may be liberated from the pulverized soil and carried with the dust into the air.

All the water from the surface, by reason of its gravity,

sinks and continues to do so until it reaches a point where all the interstices are filled with water, and here joins the subterranean water-courses. This may be at variable depths in different soils; sometimes it is only two or three feet from the surface, and it may be several hundred feet, depending largely upon the elevation above the surrounding country, the depth of the impermeable stratum, or "hard-pan," and the ease with which the underground-water flows towards its natural outlets. It is not necessarily a horizontal underground sheet of water, for some impermeable stratum may crop out, opposing its further movements, and convey it in the form of springs to the surface. In low plains and valleys, the underground-water is generally not far from the surface. The movements of this water are constant in the direction of its natural outlets, which are springs, water-courses and the sea. The rate of this flow is influenced by the compactness, porosity and inclination of the soil, whilst the roots of trees naturally also lessen the movement.

According to Hess, the rate of movement of this ground-water is from forty to one hundred feet a day. Soyka determined a movement of 160 to 6,000 feet a day. In Munich, Pettenkoffer estimates its rate at fifteen feet daily. Fodor gives the mean rate at Buda-Pesth at 174 feet, with a maximum of 216 feet in twenty-four hours—calculated by the rise of the wells following a rise of the Danube.

The *level* of the ground-water is also constantly changing. This has already been referred to. It naturally rises after heavy rains; but the effects of rains are sometimes not perceptible until weeks or months after the fall; the rise and fall is sometimes quite rapid, depending on localities and seasons, its movement may be only a few inches either way; but in most places the limits between its highest and lowest levels in the year are several feet. In Munich, it is ten feet; in some parts of India, it is seventeen feet; in this Valley, it is fourteen feet.

There is generally a periodic rise, commencing in the fall of the year, and a corresponding depression in the spring, which has been attributed to the increased percolation of the

rainfall in the colder months and the greater evaporation in summer. The level of ground-water is also influenced by the pressure of water from the rivers or the sea, geological obstructions to its outfall, etc. When these obstructions are very great, the ground-water, stagnates and we have our marshes, and swamps, and tule lakes; these, when inland, are entirely due to the fact that the subsoil-water is held up by impermeable strata, and the water has no outlet except by evaporation.

4. *Absorption of Heat and Temperature of the Soil.*—The temperature of the upper layers of soil depends largely upon its exposure to the sun; but it is well known that the heat is absorbed in different amounts by different soils equally shielded or unshielded by vegetation, and that it depends largely upon the color of the soil. Dark soils absorb more heat than light-colored soils, and the dimensions of the grains and their chemical constitution also influence this property. The absorbing and retaining powers are not necessarily equal, and are greatly influenced by the degree of moisture; damp soils absorb heat more slowly, but they also cool more slowly than dry soil.

The following table by Schubler shows the capacity of different soils of absorbing and retaining heat—100 being assumed as the standard:

Sand with some lime,	100.0	Clayey earth,	68.4
Pure sand,	95.6	Pure clay,	66.7
Light clay,	76.9	Fine chalk,	61.8
Gypsum,	72.2	Humus,	49.0
Heavy clay,	71.1		

It will be seen, therefore, that sandy soils are warmer, and clayey soils are not only damp but colder.

The degree of temperature depends entirely upon the intensity of the sun's rays and differs in different latitudes and climates; but everywhere the rays of the sun produce two currents of heat in the soil. One wave is diurnal, the heat passing down in temperate climates to about four feet during the day, and receding during the night; the depth naturally varies with the season and the nature of the soil.

The other wave is annual, and in temperate climates the wave of summer heat reaches from fifty to one hundred feet.

The line of uniform annual temperature, according to Forbes, is from fifty-seven to ninety-nine feet below the surface.

5. *Soil Pollution*.—By soil pollution, we mean the presence of various impurities of vegetable or animal origin, which have either been washed from the surface into the soil or are derived from defective drains, sewers, cess-pools, privies, slaughter-houses, glue and soap factories, etc. Impurities, as already indicated, are also naturally present in alluvial and marshy soils. The impurities may be solid, soluble, and suspended or organized. Solid particles may be washed down as far as the pores of the soil will admit of their penetration and thence lodge, to be acted upon by the processes of disintegration.

Of the *soluble organic matter* likely to be present in soil pollution, whether from leaking cess-pools, sewers, drains or surface-pollution, we find soluble albuminoids, urea, ammonia and lime phosphate. The nitrates, nitrites and chlorides are generally not absorbed by the soil.

The suspended matter, whether living or dead, is held by the constituents of the soil, just as they would be arrested in a filter; it is for this reason that the surface of even virgin soil contains a large proportion of organic matter constituting the rich loams of our country. Indeed, this accumulation may be so great, that all the pores of the surface of the soil are filled with debris and the filter is clogged, in which case the water cannot penetrate and runs off; but if there is a dead level or a depression, it naturally stagnates and forms ponds or swamps.

The extent to which soil pollution can take place depends largely upon the porosity of the soil; and whilst it is generally considered that loose porous soils are healthy because they are dry, we may justly add, provided no soil pollution has taken place.

This I can best illustrate by the medical history of a

family which had more sickness, especially the so-called filth diseases, than any other family in my town. The inhabitants of a new house were well-to-do, intelligent and cleanly; the well was close to the house and the privy at least 150 feet from the well. It was impossible to connect the occurrence of typhoid fever and diphtheria in this family with a previous case; but I was informed that the building site, a dry gravelly spot, was formerly used for a cow corral and hog pen. In view of all the circumstances, there was nothing improbable in the assumption that the animal refuse matter permeated the soil for a considerable depth and furnished suitable food for disease-germs, which, with the recession of the sub-soil water, were stimulated into activity, and finally percolated into the well, or gained access into the air of the rooms by the movements of the ground-air in the manner already referred to.

But, not to digress too much, let us study the *efforts of nature to eliminate impurities in polluted soil*. It is very certain that the organic matter does not remain unchanged. In porous soils, where the air can gain free access, oxidation takes place. The carbon is converted into carbonic acid and the nitrogen into nitrates and nitrites; and this explains the excess of carbonic acid even in virgin soil. A certain degree of moisture is, however, necessary; for it has been shown that if only 1 or 2 per cent. of moisture is present, no carbonic acid is generated. Warmth is also essential; the production of CO_2 of nitrates and nitrites goes on quite rapidly in warm soils, but is retarded in cool weather, and ceases almost completely at the freezing point. Last, but not least, the presence of bacteria is absolutely essential in the decomposition of organic matter. Pasteur has shown that in soil in which these organisms have been destroyed (sterilized), no nitrification takes place, even if all the other conditions are present. From these and numerous other experiments, it has been concluded that the oxidation of organic matter in the soil is not a purely chemical process, but is brought about with the aid of micro-organisms, which

feed upon it, and as they multiply, they split up the organic matter into simpler compounds.

The rapidity of oxidation, apart from the conditions mentioned, is also influenced by the chemical constitution of the soil; a certain degree of alkalinity is absolutely essential. In fact, nitrification ceases when the nitric acid fails to find a suitable base for its combination.

It has been shown that next to lime, the presence of soda, potassa and ammonia carbonate hastens nitrification.

It will be seen that this beautiful process of nature is evidently intended for the purification and utilization of effete matter, and thus not only interests the agriculturist, but also the sanitarian. Nature is ever kind and indulgent, and it is only when we impose upon her, or expect too much from her forces, that we are disappointed.

The capacity for self-purification of the soil is naturally limited. If the soil is charged with organic matter to a greater extent than it is capable of oxidizing, by reason of its physical and chemical constitution, an accumulation takes place, which naturally affects the permeability and healthfulness of the soil; for in place of oxidation, we will have deoxidation or putrefaction, all because the pores of the soil are closed and oxygen cannot enter. In such an event, we get nitrous acid and ammonia; the sulphates are reduced to sulphides, and we find in consequence hydrogen sulphide, ammonium and ferrum sulphides. If much iron is present, free hydrogen sulphide is not produced, no matter how strong the organic pollution may have been; but if the soil is deficient in iron and rich in gypsum, free sulphuretted hydrogen is evolved. Even these reduction processes are not purely chemical, but are initiated by the bacteria of putrefaction.

The principal sources of soil-pollution may be summed up as follows: Human and animal refuse, fæces and urine, the dead bodies of animals and man, vegetable debris, refuse of industrial pursuits, and deposits from floods. These are especially objectionable if the soil in the particular local-

ity is already damp and likely to keep the fresh sediment also damp. If, on the other hand, the mud has a chance to dry, oxidation will speedily destroy the rich quantities of organic matter contained therein.

6. *Micro-Organisms in the Soil*.—Reference has already been made to the presence of microbes in the soil. They are quite numerous, but decrease in number with the depth of the soil.

Beumer (*Deutsche Med. Wochenschrift*, 1886, No. 27,) found in—

1 c. c. of sandy loam at a depth of 10 ft.,	44-45 million germs.
" " " " 13 ft.,	4-10 " "
" " " " 16 ft.,	5-8 " "
" " " " 20 ft.,	6-5 " "
" " marls " " 13 ft.,	1½ " "
" " " " 16 ft.,	1½ " "
" marls " " 13 ft.,	750,000 germs.
" " " " 16 ft.,	380,000 "
" cemetery earth, sandy, "	4 ft., 1,150,000 "
" " humus, "	6 ft., 430,000 "
" yellow clay, "	6 ft., 260,000 "

The investigations of Pagliani, Maggiori and Fratrini at Milan, in 1887, quoted by Uffelmann, also show that the upper layers of the soil contain the greatest number of micro-organisms; that they decrease with the depth; that they are more numerous in manured and cultivated than in virgin soils, and that the soils of forests contain the least number of germs.

The micro-organisms of the soil include fungi, ferment bodies and bacteria—the latter preponderate in the upper layer of soil.

Of the *fungi* which have been isolated, there are, according to Adametz, the following varieties: *Penicil. glaucum*, *mucor mucedo*, *M. racemosus*, *M. stolonifer*, *Asper. glaucus*, *Oidium aurantiacum*, *O. lactis* and *clostridium butyricum*.

Of the *ferment bodies*, the *saccharomycetes glutines*, *cerevisiæ*, and *rosaceus* and the *Monil. cand.* have been demonstrated.

Of the *bacteria*, there have been found the *micrococcus*

candidus, luteus, aurantiacus, versicolor, cinnabareus, roseus, diplococcus luteus, bacterium lineola, termo, subtilis, mycoides, viridis, liquifaciens and non-liquifaciens; B. allus, rubescens, prodigiosus, proteus vulgaris, the bacillus butyriscus, vibrio rugula and many others.

Of the *pathogenic bacteria*, the following have so far been discovered in the soil: The bacillus of *tetanus* by Nicolaier in garden earth, but it is not found in all soils. Bonome claims to have found this bacillus also in mortar, in which case it was probably derived from the soil. The bacillus of *anthrax* was found by Frank in the clay of a stable formerly kept for the storage of hides. The bacillus of *malignant œdema* was found by Koch and others, and the bacillus typhosus by Tryde in the soil beneath a barracks. Klebs and Tommasi-Crudeli described a bacillus found by them in the water and soil of the Roman Campagna, which they regarded as the microbe concerned in the causation of malarial fevers; but it is now held that Laveran's *plasmodium malarix* (a species of protozoa) is the essential agent of the disease.

The investigations, so far, appear to indicate that pathogenic microbes are not very frequent in the soil. On the other hand, it must be remembered that the methods of bacteriology are far from perfect, and that much more may be accomplished in future.

The development of the micro-organisms naturally depends upon a suitable food, moisture and a certain degree of warmth. This pabulum they find in the organic matter of the soil, which not only contains carbon and nitrogen, but also the salts requisite for their growth. Investigation has shown that when the soil contains less than 4 per cent. of moisture and possesses a lower temperature than 32°, their development ceases, and that they luxuriate best in a warm porous soil rich in organic matter, moist but not wet, and they nearly all require a sufficient amount of oxygen.

In order to determine the depth at which pathogenic bacteria may still grow, Fränkel made a series of experi-

ments with anthrax, typhoid and cholera bacilli, and found that the multiplication of anthrax bacilli is retarded at a depth of seven feet, and completely arrested at ten feet; the bacilli of cholera continued to grow at a depth of ten feet during the months of August, September, and October, but not during the other months; at a depth of five feet, however, proliferation continued during the entire year. The typhoid germs ceased to grow, at a depth of ten feet, only during the months of April, May, and June; during all other months of the year, they multiplied vigorously.

Whilst the number of micro-organisms in the soil is really enormous, by far the majority are harmless, and are the scavengers of nature and ever active in the nitrification, fermentation, and putrefaction, which split up the organic matter into substances best suited for assimilation by vegetable roots. It is perfectly conceivable, that disease germs may be washed from the air or gain access to the soil by clinging to organic matter of every description, and thus find their way into wells and springs, or they may reach the surface by the ascending currents of the ground-air, and be again liberated from the pulverized soil. Pasteur has pointed out how anthrax bacilli have been turned up by earth-worms, and it is scarcely necessary to indicate the many ways by which man himself, in excavations and agricultural pursuits, may be instrumental in bringing the microbes to the surface. The occurrence of malarial fevers, after turning up the sod of virgin soil, can rationally be explained in this way.

Summary.—From the foregoing, it is evident that the soil may affect the health of those immediately residing thereon by the ground-air, dampness, soil pollution, and disease-germs.

We have seen that the ground-air is in constant motion, interchangeable with the atmosphere and the air of our houses—that it contains impurities, viz: an excess of carbonic acid, sometimes ammonia, and occasionally hydrogen sulphide, and coal gas. If these gases pass directly into the

atmosphere, no harm can result; if they pass into our cellars or basements, the air of our homes will be vitiated. The extent to which this may take place we cannot here discuss. The possibility of disease germs entering the outer air and the air of habitations through the movements of the ground-air has also been pointed out.

In reference to the *moisture of soils*, we have learned that the degree of moisture naturally affects the humidity of the atmosphere; it is for this reason that the air of meadows and valleys is, generally speaking, damper than the air over sandy plains or agricultural soils. The humidity of the soil is of the greatest importance in the disintegration of organic matter, and may determine, in one instance, oxidation—in another, reduction or putrefaction. The degree of moisture may be just sufficient to promote or arrest the development of certain disease germs. The rain which percolates the soil may carry these germs into the ground-water and thus contaminate the drinking water, provided, of course, they have not previously been arrested by the filtering and absorbing properties of the soil.

In regard to the *ground-water*, we have seen that its rise and fall influences the amount of moisture in the upper layers; if it rises to within a few feet of the surface, the dampness extends by capillary attraction to the atmosphere, and by evaporation cools the air; and if, perchance, a dwelling should be located on a damp soil, this dampness will extend to the house, and may cause a damp and chilly air within.

The movements of the ground-water also cause corresponding movements of the ground-air; a sudden and considerable rise of the ground-water forces the ground-air before it and out of the soil. This may result in an upward displacement, not only of noxious gases and effluvia, but also of micro-organisms. I have had repeated opportunities to observe the disagreeable effluvia, after a sharp rise of the stream which drains this town. A gradual rise accomplishes, of course, the same purpose. With a recession of

the ground-water, the air enters the deeper layers of the soil, and may stimulate into activity certain disease germs which remained dormant as long as they were submerged.

In reference to soil pollution, it is evident that even the manuring of cultivated fields may give rise to offensive effluvia; it is an open question whether such emanations can produce disease, or whether the presence of organic matter in the soil is ever itself the cause of disease. It is probable, however, that it simply furnishes a vehicle and suitable nutriment for disease germs, since we know that soil pollution plays an important rôle in the production of typhoid fever, malaria, diphtheria, dysentery, and other filth diseases.

We know that pathogenic germs may be conveyed from the soil directly and indirectly. The investigations of Bonome, Beumer, and others, have shown that contact of open wounds with certain soils has resulted in trismus and tetanus, and the same mode of infection is probable in malignant œdema, which is also caused by a specific germ. Generally speaking, however, disease germs first gain access into the *air* or *water*. It has been indicated how they may reach the air in the form of pulverized dust and be inhaled; other germs may reach the water-courses or percolate into wells and springs through the movements of ground-water.

We also know that cattle which have been grazing on grass and clover-fields, the soil of which has been infected by burial of dead animals from anthrax, have contracted the disease. This at least suggests the possibility that the germs of typhoid, dysentery, etc., may be conveyed from fields, through the medium of vegetables which are eaten raw, like lettuce, radishes, strawberries, etc. By examining these, after a heavy shower, and observing the spattered mud, we can readily appreciate how such a transmission is possible.

[TO BE CONTINUED.]

ART. II.—Foreign Bodies in the Air-Passages (Nose, Pharynx and Larynx). Some Practical Remarks, with Cases.

By JOSEPH A. WHITE, A. M., M. D., of Richmond, Va.

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SENIOR SURGEON TO RICHMOND (VA.) EYE, EAR,
THROAT, AND NOSE INFIRMARY, ETC.

Quite frequently we see cases with foreign bodies in the nose or pharynx; occasionally one with a real or supposed foreign body in the larynx.

From the *nose* I have removed pebbles, marbles, buttons, peas, beans, a piece of lead pencil, a camel's hair-brush, a moth ball, a piece of camphor, ribbons, rubber bands, and, in fact, almost everything that the ingenuity of a child could suggest as a suitable thing to run into the nose; from the *pharynx and tonsils*, chicken bones, fish bones, pins, hairs, bristles from a tooth-brush, etc.; from the *larynx and trachea*, a safety-pin, a nickle, a grain of corn, hairs from a camel's hair-brush, etc.; but the experience of others shows that this list can be multiplied many times.

Nose.—As a rule, foreign bodies in the nose, especially when lodged just inside the vestibule, produce little or no disturbance, and are hardly worthy of consideration apart from the worry and anxiety given to parents, and the sometimes extraordinary methods adopted for their removal. I have seen nervous mothers nearly frantic because of this simple accident, and refuse to be comforted until the offending foreign body was removed. I have also seen the foreign body tightly wedged in the nose, and serious damage done by ill-advised attempts to remove it. Very recently a child was brought to me from a distance with a button in the nose, which the physician first consulted tried to extract with a pair of dressing forceps too large to open inside the nostril. Consequently, each attempt to remove it only resulted in pushing it further up into the nasal passage, and finally wedging it firmly between the septum and turbinate opposite, causing considerable laceration of the parts, and

hæmorrhage. It was easily extracted under cocaine anæsthesia with a bent probe. I have known of physicians trying to push the offending foreign body through into the naso-pharynx when they failed to remove it anteriorly. This entails danger of tearing the turbinated tissues and fracturing the turbinated bones.

There is no need of anxiety about a foreign body being in the nose, nor of these clumsy attempts to extract them. There is no immediate risk nor danger from its presence, and no occasion for hurry about removing it, if one has not a knowledge of the proper methods and a suitable instrument to use. As a rule, there is even no discomfort. The only possible dangers are that a small smooth body might, under some circumstances, be drawn through the nostril, and, by a sudden inspiration, pass into the wind-pipe; or a rhinitis, sometimes of an offensive character, be set up by any lengthened retention of some foreign bodies, as the following case illustrates:

CASE I.—A. S., a boy about ten years of age, was brought to me from Covington, Va., by Dr. Rogers, because he had a nasal catarrh for some time past, which had become extremely offensive in spite of the attempts to keep the parts thoroughly cleansed with an antiseptic wash. I washed out the nose, and then, high up above the middle turbinate, I discovered what looked more like necrosing tissue than any thing else; but when I attempted to remove it I found it was a rubber band such as is used to put around packages, and which the boy had, at some time in the past, rammed into his nose. This had been the cause of the whole trouble. It had become roughened by incrustation resembling calcareous deposit. A few days after its removal, all of the fetor attending the case disappeared, and within a few weeks he was entirely well.

Any physician can easily remove foreign bodies from the nose, even when apparently tightly wedged. A spray of a solution of cocaine will sometimes shrink the tissues sufficiently to loosen it, and gentle traction, with a bent probe, will remove it. The nasal douche, properly used from the nostril opposite to the one containing the foreign body, frequently brings it out in the flow of warm water.

Pharynx.—Foreign bodies in the pharynx cause considerable inconvenience. The feeling of irritation in the throat may bring about cough, difficulty of swallowing, retching, and decided pain.

The apprehension of choking, always more or less associated with the presence of a foreign body, however small, increases the mental anxiety of the patient. People differ much in this regard. Whilst the majority have these symptoms more or less pronounced, occasionally we meet persons with throats very tolerant of a foreign body. The tonsils and their surroundings are favorite places for the lodgment of bones, pins, etc., and I have sometimes seen these so deeply embedded in the tissues that it was a wonder how this was ever accomplished by the act of swallowing.

The glosso-epiglottic folds are also attractive localities for foreign bodies, and especially in people who have enlarged glands at the base of the tongue. This hypertrophy of the lingual tonsil also suggests that troublesome neurosis of sensation which is to be considered in speaking of foreign bodies in the pharynx, and that is "imaginary foreign body." Patients sometimes call on us who insist there is a bone or some other extraneous body in the throat, as all the annoying sensations characteristic of its presence are manifested. A most careful examination fails to reveal any foreign substance, notwithstanding the symptoms.

When there is a *bona fide* foreign body, there is, as a rule, no very great difficulty in detecting it, as, with the great help cocaine gives us in making an inspection, very little of the pharynx or laryngeal space is hidden from us. A hair bristle or very thin translucent fish-bone may sometimes escape detection, especially if embedded in the tissues; but even these will usually be found on careful inspection. In some cases, a foreign body might have been in the throat and disappeared, leaving the irritative symptoms behind, or there may be some local disease of the pharynx; but, in others, the whole train of symptoms is purely imaginary, just as is the sense of suffocation in the so-called cases of "globus

hystericus." Most of these patients are of a nervous or hysterical temperament, and in a majority of them we find enlargement of the lingual tonsil, or of the lymphatics at the base of the tongue. This hypertrophy may probably be considered an important factor in producing these nervous sensations. The discomfort and suffering is just as real as if there was really a foreign body present, and more difficult to get rid of than in the latter cases.

Savitsky reports a remarkable case of a man who was suddenly seized with the most alarming symptoms of pharyngeal obstruction, thinking his false teeth had lodged in his throat. After ineffectual efforts by his physician to extract an apparent obstruction low down the throat, œsophagotomy was performed without finding the offending substance. The teeth were discovered under a sofa on the floor, and all the symptoms immediately disappeared with the relief of the mental anxiety. I quote this to show to what extent these imaginary symptoms may go.

The removal of foreign bodies of any kind from the pharynx is an easy matter unless they have passed down to the lower third or into the œsophagus out of the domain of the air-passages. A weak solution of cocaine will relieve all the uncomfortable symptoms.

Larynx.—The presence of a foreign body in the larynx is a more serious consideration than when lodged in the nose or pharynx, because of imminent danger of suffocation, if it is not speedily removed, or of secondary troubles from its retention, that might cause death. There are few medical men of any experience but are familiar with the symptoms of a foreign body in the wind-pipe—such as fright, pain, cough, hoarseness, or interference with the respiration, because of the spasm. If the foreign body is not spontaneously expelled, and is not large enough to cause suffocation, the larynx or trachea often becomes tolerant of its presence to a certain extent. This is especially true of smooth substances, which cause only slight irritation.

CASE.—Some years ago a negro woman brought her child, a boy about ten years of age, to my clinic, saying he had

swallowed a small coin a few days before, and had lost his voice in consequence. Examination showed a coin apparently about as large as a three-cent piece lodged vertically in the left ventricle of the larynx. This was an unusual lodgment for a foreign body, and I thought it so insecurely located that I feared it would turn over and fall into the trachea. I tried to remove it by the process of inversion, but failed to change its location. I suggested operation, as the child resisted all attempts at removal *per vias naturales*, and the mother promised to bring him next day. She failed to put in an appearance, and after some days I went to look up the case, and found the coin had become loosened from its position and was coughed up two days after. The negro dread of operations had made the woman conclude to trust to nature rather than have her boy's throat cut. In this case, the only symptoms of the presence of a foreign body in the larynx was the aphonia. There was little or no cough, and very little disturbance of respiration.

The most singular case of tolerance of a foreign body in the larynx was the following one, now published for the first time; but having been related to Dr. John O. Roe, of Rochester, N. Y., he has referred to it in his article in Burnett's *System of Diseases of Ear, Throat, and Nose*.

CASE.—Ida L. W., one year old, was brought to me September 26, 1891, by Dr. Hugh M. Taylor, of Richmond, Va., to have an examination made to determine if there was any foreign body in the child's wind-pipe. Two weeks previously, the grandmother was bathing the child. When undressing it she counted a number of very small safety pins, which she laid in her lap. When she dressed the child after the bath, one of the safety pins had disappeared. It was not on the floor, and they could not find it anywhere about. As the child exhibited symptoms of throat irritation, with coughing and strangulation, they concluded that it had swallowed the pin, or that it had lodged in its throat. Two or three physicians examined the child carefully, and being unable to locate the foreign body, concluded that the grandmother was mistaken. For the first few days, the little one had a great deal of trouble both in breathing and in being nourished, but as these symptoms gradually disappeared, leaving only an occasional attack of coughing, the parents concluded that they were mistaken. The attacks of coughing, however, kept up, and they came to Richmond to con-

sult Dr. Taylor, who brought the child to me. After careful examination, I located the safety pin partly in and partly out of the larynx, with the sharp point apparently driven through its right wall from within outwards. It had gone down open, with the open end or base of the triangle formed by an open safety pin upwards. When it entered the larynx spasm and cough resulted, and the pin was forced upwards, the sharp end penetrating the soft parts, and holding it firmly in this position. The pin could not fall into the wind-pipe, but the epiglottis could not close, and, as a consequence, coughing accompanied each attempt to nourish the child from milk entering the larynx. I removed the pin with a pair of laryngeal forceps, pushing it down first, and then drawing it out, slightly lacerating the tissues.

This case is a unique one, and remarkable for the wonderful tolerance exhibited by the throat. The danger of immediate suffocation from the impaction of a foreign body in the larynx often necessitates the prompt intervention of the surgeon in opening the wind-pipe, and no physician should hesitate a moment under such circumstances, as delay means rapid death. I knew of a case once (not Heath's case), where a country doctor, with that coolness and nerve in emergencies so many of them possess, did a laryngotomy with a pocket-knife, in the midst of a dinner party, to prevent impending death from a bolus of meat so tightly impacted in the larynx that it could not be readily dislodged. But in the absence of all immediate danger a careful laryngeal examination can be made, the location of the foreign body settled, and the best method of treatment decided. If it is in the larynx, it can easily be removed with the appropriate instruments after thoroughly anæsthetizing the parts.

I usually deaden the pharynx with a 2 per cent solution of cocaine by a spray-producer, and then apply a 20 per cent. solution very thoroughly to the larynx with a brush. I have never been able to do away with the reflex spasm of the larynx with a weaker solution, and sometimes I have to repeat this application several times in order to do this. This also applies to other operations in the larynx—such as removal of growths, scraping ulcers, applying acid, or the

use of the galvano-cautery. In this way I have removed pins, bones, etc., from the larynx without any discomfort to the patient.

Sometimes we can successfully remove a foreign body in the sub glottic space in the same way. Usually, however, when it has passed into the trachea, if the method of inversion above mentioned fails, or is impracticable (and it is only useful when the foreign body has weight enough to be acted on by gravity, such as a coin), tracheotomy becomes necessary. Even if a small body, such as a grain of corn, or some such substance, has passed into a bronchus, it may be coughed out when the trachea is opened in the first rush of air. If it is not thus expelled, many devices are suggested to remove the foreign body, after tracheotomy, but they may or may not be successful. Its retention in a bronchus may be followed by tolerance for awhile, and subsequent expulsion, of which there are many cases on record; or inflammatory troubles may supervene that will cause death sooner or later.

What the ultimate result of the presence of a foreign body in the wind-pipe may be is at first merely speculative, but there is one fact that is plain—viz: where we cannot remove it through the mouth, the patient should have the benefit which is undoubtedly to be derived from an opening in the trachea.

200 *East Franklin Street.*

ART. III.—Poisoning by Illuminating Gas.*

By JOHN W. SHAW, M. D., of Washington, D. C.

In this enlightened age, one would suppose gas-poisoning to be of extremely rare occurrence, except those cases in which it is inhaled with suicidal intent; but the fact is, as we all may know, that only the smallest percentage of deaths from this cause can be attributable to suicides.

From the small amount of literature I can find on this

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subject, I believe that 94 or 95 per cent. of cases are due to either carelessness, ignorance, or accident. True, in comparison with the diseases we are called upon to treat, it is of rare occurrence, and many of us may go through life without having or seeing a single case; but, on the other hand, any one of us may be called from bed to-night to treat just such a case, and it is to those fortunate or unfortunate brethren I may, from my limited experience of two cases, offer some suggestions which may prove useful. I have never seen any statement in regard to the mode of poisoning by illuminating gas; but have a theory which you may take for what it is worth.

I believe it poisons in three different ways—

First. By the gas replacing, to a greater or less extent; the atmospheric air; consequently reducing the supply of oxygen.

Second. By the direct poisonous properties of the heavy and light carburetted-hydrogen, when mixed with air and absorbed through the lungs.

Third. By the collection of carbon dioxide in the body for the want of sufficient interchange of gases necessary to remove it.

Which of these plays the most important rôle in destroying life, I am unable to say, but I believe the retention of effete material generated in the body itself is the principal poisoning agent; in reality, it is poisoning from the effects of carbonic acid gas, and not illuminating gas.

We have all seen the rapidity with which CO_2 collects in the body when, from any cause, respiration is interfered with, and the alarming symptoms produced in a short space of time, unless removed. Now, the blood-corpuscles being already crippled by the poisons contained in the gas, become less and less able to carry off the carbon dioxide until it accumulates to such an extent as to overwhelm the respiratory centres and produce death. Even allowing they are able to carry it as far as the lungs as rapidly as it is generated, here they are unable to give it up for want of sufficient oxygen to produce the chemical change.

My first case occurred three years ago, about which I unfortunately neglected to take notes, but will state a few facts from memory :

A servant girl, about eighteen years of age, was brought into the hospital of which I was one of the resident physicians about nine o'clock in the morning in a comatose condition. The odor of gas was most penetrating, and even five or six days after her admission the odor was very perceptible.

Upon examination, we found her cyanosed to an extreme degree. Pulse weak and rapid. Respiration much embarrassed. Cold extremities. Reflexes almost abolished. The prevailing odor of gas left no doubt as to the diagnosis. The remarkable feature of this case was,—she remained unconscious for five days, and, at the end of that time, could only be aroused sufficiently to protest against being disturbed. No lung complication followed, and she made a complete recovery in about fourteen days.

My next case, Mary A., a chambermaid, aged twenty-five, retired to bed about 11 P. M., in a closely-fitted room, eight by ten feet. The room was furnished with an ordinary gas jet, but had the fault of having an unshouldered stopper; she extinguished the light, but was so unfortunate as to turn the stopper 180 instead of 90 degrees of the circle, thus permitting the gas to escape in almost a full stream. She fell asleep immediately. About 2 A. M., some other servants living in the same house detected the odor of gas. Upon investigation, they discovered the source, and immediately burst open the patient's door; the windows were thrown up, and the patient conveyed to another room. I arrived shortly after this, and found her, like the former case, in a state of coma. She appeared utterly lifeless; respiration was scarcely perceptible; pulsation could not be felt at the wrist, and only slightly in the carotids; a weak cardiac impulse could be heard on auscultation, which seemed almost the last flicker of life; the surface of the body was cold, the skin maculated and purple, the tongue and mouth cold, and the pupil slightly dilated. My first impulse was to make some profound impression, in order to stimulate the respiratory centres to stronger action, and was about to order a bucket of cold water to be dashed over the face and chest for this purpose, when I decided heat and stimulants, combined with artificial respiration, would do better for a patient so near death. Accordingly, I ordered hot bottles to be placed

around the patient, and injected whiskey and atropia hypodermically. I also injected carbonate of ammonia into the rectum.

After six or eight hours of this treatment, there was some improvement. The following evening the patient's condition was much improved; but still being only semi-conscious, a friend suggested inhalation of oxygen. I had thought of trying this before, but came to the conclusion it was an almost worse than useless procedure.

My reasons for thinking so were based upon the small difference in the composition between inspired and expired air, as you know ordinary atmosphere or inspired air contains 79.15 per cent. of nitrogen, 20.81 per cent. of oxygen, and .04 of carbon dioxide. Expired air contains 79.55 per cent. of nitrogen, 16.03 per cent. of oxygen, and 4.38 per cent. of carbon dioxide. You will see from this the volume of nitrogen is almost unchanged, the volume of oxygen has diminished nearly 5 per cent. The CO_2 has increased almost $4\frac{1}{2}$ per cent.

Knowing the chemical affinity existing between hæmoglobin and oxygen, it seems to me if it were possible for the hæmogoblin to take up and use more oxygen, it would have been taken from the remaining three-fourths of unused oxygen, or the 16.03 per cent. of expired oxygen, which has passed through the lungs unabsorbed.

For this reason, I believe the inhalation of oxygen, while it may not be injurious, has no advantage over a plentiful supply of fresh air in the treatment of this condition.

It might be said that blood in this condition requires more oxygen than in health, and that you could not base a calculation on the analysis of inspired and expired air in the normal state; but, on the contrary, I do not believe the blood of an individual so affected is capable of using as much oxygen as it is when in its normal condition.

I made a microscopical examination of the blood of the second case. When drawn, it was extremely dark, and rather thick. The corpuscles under the microscope were seen to be cerated, broken up, and, in fact, seen in all stages of disintegration, few of them retaining their identity; con-

sequently, corpuscles in this condition contain less hæmoglobin, and are therefore not able to carry the same amount of oxygen as normal ones.

The condition of the blood gradually improved each day, until about the twelfth day, when it might be said to have returned to its natural condition.

In conclusion, I will add that it seems to me, when it is practicable, transfusion of blood would be the most rational form of treatment in extreme cases, for it immediately supplies the system with the hæmoglobin, of which it is in such great need. This, combined with fresh air, artificial respiration, heat, and stimulants, are sufficient to keep one busy until life or death removes the responsibility.

In regard to stimulants, I think the hypodermic injection of nitro-glycerin would have been much more efficient than the ammonia by the rectum. Indeed, Kloman, of Baltimore, goes so far as to recommend it as an antidote.

908 McPherson Square.

ART. IV.—The Treatment of Hæmorrhoids by Injection.*

By LLEWELLYN ELIOT, A. M., M. D., of Washington, D. C.

The treatment of hæmorrhoids has always been a subject of great interest to me, and for their cure I have tried many plans which have, from time to time, been advocated in the medical journals and text-books of the day. For the discussion of the varieties, causes, and symptoms of hæmorrhoids, it is only necessary to refer to any late work upon surgery; so we will not discuss these heads further than to say, hæmorrhoids are divided into two classes, the *internal*, or *bleeding*, and the *external*, or *blind*.

The diagnosis having been made only after an examination of the rectum by the physician, and never upon the word of the patient, the course of treatment to be pursued resolves itself into either palliative or radical; in other

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, March 12, 1894.

words, temporary or permanent. All cases of hæmorrhoids, external or internal, are amenable to the same line of treatment.

External Hæmorrhoids are venous or cutaneous, and may be relieved by giving compound licorice powder, sulphur and senna, cascara, or other laxative, with the application of an ointment or suppository of extract of belladonna and opium, leeching, or a strong wash of tannic acid. Incising and turning out the clot, or a ligature applied, is the generally adopted plan of treatment.

Internal hæmorrhoids may be either venous or arterial. The arterial, that is to say, the pile which contains within its enveloping membrane one of the descending parallel branches of the superior hæmorrhoidal artery, is the more common. The nævoid pile is composed of both arteries and veins.

Palliative treatment is here much more unsatisfactory than in the external variety, although many cases are relieved for long periods of time after a course of laxative medicines, astringent injections, dilatation of the sphincter, and regulation of diet and avoidance of alcoholic liquors.

The radical treatment consists in the use of the ligature, the cautery and clamp, and the injection of fluids which will produce sloughing. Either method will, in a majority of cases, be followed by a cure.

It goes without saying that when hæmorrhoids depend upon any disease of the uterus, an examination should be made, and any displacement existing be corrected before operative treatment is instituted. Hæmorrhoids occurring during pregnancy sometimes demand operation; and while the pregnant state is not a barrier, it is better to defer operation until some weeks after delivery.

If internal hæmorrhoids actually exist, palliative treatment will not cure them; and to pretend to the patient that he is being cured or benefited by such treatment is an injustice to him. Operative treatment alone is what should be adopted. Infallible cures for piles, in the way of oint-

ments, washes, and salves, come under the same category as the pretensions of the quack who cures without the use of the knife, ligature, clamp, cautery, or any other operative procedure.

Before any treatment for internal hæmorrhoids is adopted, it is absolutely essential that the bowel be well cleansed. This may be done with calomel, sulphate of magnesia, or enema. In regard to the position of the patient, this is a matter of taste with the physician.

The treatment of hæmorrhoids which is usually adopted is either the ligature, the clamp and cautery, injection of carbolic acid, crushing, excision, dilatation of the sphincter, or Whitehead's operation. These will be noted briefly.

The *treatment by the ligature* is the easiest of performance and safest in its results, and is generally accompanied by less pain than any other treatment. Many rectal specialists prefer it to any other plan. Erichsen has said, "All external piles should be cut off, and all internal piles should be tied." Matthews says, "I do not think, to this day, we can improve upon that injunction." Allingham says, "I do not think, in the whole range of surgery, there is any procedure worthy of the name of operation, which can show a greater amount of success or smaller death-rate than the ligature of internal hæmorrhoids." Bushe, Brodie, Syme, Ashton, Cooper, Van Buren, Bodenhamer, never had a fatal accident.

It is an operation easy to perform. The hæmorrhoid is drawn down, and, with a pair of sharp scissors, separated from its connection with the muscular to the sub-mucous tissues upon which it rests. A strong well-waxed ligature is now passed around the pile at the bottom of the groove made by the separation and tied as tightly as possible; the pile is then returned to the bowel. The speculum must be used when necessary.

In the *Lancet* of 1888, Mr. Pollock advocated *crushing* as a means of curing internal hæmorrhoids. The method has never become popular.

Excision is the operation of which Allingham says, "I think it one of our best operations, and I have now records of numerous cases in which I excised internal piles with remarkably good results." It is the operation for the expert only.

Dilatation of the sphincter muscles is a French treatment. This cures not so much from its dilatation, but from the fact that it puts an irritable sphincter at rest, for usually there is some abrasion about this muscle. In this condition, great relief is felt by its employment. The dilatation may be accomplished by specially constructed dilators, or with the fingers.

Whitehead's operation consists in the radical excision, not only of the pile tumors, but of the entire hæmorrhoidal plexus. There are several objections to this operation; it is only suitable in selected cases; an anæsthetic is always necessary; complete paralysis of the sphincter muscle is also necessary. It is difficult, tedious, and bloody; and if primary union does not ensue, pus accumulates and makes an ugly result. It is therefore applicable to only a few cases.

The *treatment by clamp and cautery* is credited to Mr. Henry Smith, although Mr. Cusack devised it, and Mr. Henry Lee introduced it into London; still the most ardent advocate, and the one who has used it more than any other operator, is Mr. Smith. Kelsey advocated this plan. Allingham says, "In my opinion, this operation has little to recommend it. As regards danger to life—after all, the issue of greatest moment—as far as my most careful researches have led me to a conclusion, it is quite six times as fatal as the ligature, properly and dexterously applied." Mathews uses this plan in some selected cases. It consists in drawing down each tumor, applying the clamp to its base, cutting off that portion left above the clamp with scissors, and then burning the stump thoroughly with Paquelin cautery.

We have come now to the *treatment by injection*. Any method which cures without knife, ligature or cautery, takes the public eye, and it is owing to the dread of an operation that the method of injection owes its existence.

Kelsey says of it: "I also venture to predict that as a popular quack remedy, it has seen its best days."

According to Dr. Edmund Andrews, the method was first used in 1871 by Dr. Mitchell, of Illinois, the injection being one part of carbolic acid and two parts of olive oil. As a business venture, the treatment was a success, and, according to the statistics furnished by Dr. Andrews, when we consider the character of the medical education possessed by ninety per cent. of itinerants, the treatment was also a success. From a correspondence conducted by Dr. Andrews, after the secret had been revealed to him, in 1876, by one of the quacks, he furnishes the following figures:

Cases treated.....	3,304
Deaths.....	13
Embolism of liver.....	8
Sudden and dangerous prostration.....	1
Abscess of liver.....	1
Dangerous hæmorrhage.....	10
Permanent impotence.....	1
Stricture of the rectum.....	2
Violent pain.....	83
Carbolic acid poisoning.....	1
Failure to cure.....	19
Severe inflammation.....	10
Sloughing and other accidents.....	35

Allingham contends that although injection of carbolic acid may stop bleeding for a while, yet it cannot, and does not, in any way, remove the tumor.

Gowland, Goodsall, and Cooper, of England, Mason, Van Buren, Bodenhamer, and Mathews, in this country, all condemn the plan. Mathews even says he does not believe it should be classed as a legitimate operation.

From this we see that the majority of operators in this special branch of surgery do not think the injection method is worthy of a place as a legitimate treatment of hæmorrhoids.

Now, notwithstanding all the testimony which has been brought forward against the injection method, I have failed to have a single bad result from its employment. In every case where I have injected hæmorrhoids, there has been a

cure, as permanent and as positive as any result may be called a cure; the hæmorrhoids have, as an invariable rule, disappeared, nor has there been a single recurrence of the tumor.

It is not necessary to say, if the causes which primarily produced the hæmorrhoids are not removed, and the habits not corrected, that a recurrence may be expected; but this does not militate against the injection method any more than it does against the ligature, the cautery, or any other plan of treatment we may pursue.

I have had success with the ligature, with the clamp and cautery, with forcible dilatation of the sphincter, and with the injection of carbolic acid in glycerine, and in other drugs.

There are many formulas for employment in injection. Those which have given me most satisfactory results are—carbolic acid in glycerine and water of a strength of 12, 15, 33, 50, 95 per cent.

Fld. ext. ergot.

Sol. acid carbolic, 95 per cent.....āā 3j.

A solution of carbolic acid in sperm oil, 1 to 2 or 1 to 4.

Tannic acid.....1 part.

Carbolic acid.....2 parts.

Alcohol.....4 parts.

Glycerine opt.....8 parts.—Mix.

The solution used in the Brinkerhoff treatment, I am informed, has the following formula:

R̄.—Carbolic acid.....3j

Olive oil.....3v

Chloride of zinc..... gr. viij. Mix.

The Hoyt formula, so I have been told by one of the parties who was cured by Hoyt, is, carbolic acid and glycerine, equal parts, diluted with six times its volume of water, a few drops being used. Hoyt claims there is not a hæmorrhoidal case possible but what can be obliterated by this means; that he has used it for fifteen years in about five thousand cases, and he does not believe a more simple or satisfactory means of cure could be devised.

Now, taking the figures of Andrews, 3,304 cases with 13 deaths, the mortality percentage will be .0039+; adding 171, or the number of accidents, we will have 184 cases, or a percentage of .052+ for combined deaths and accidents; this nearly tallies with the statement of Hoyt.

To inject hæmorrhoids, it is necessary to draw them well down, using cocaine anæsthesia if desired; as the sphincter is well-dilated, this is an easy matter. The needle, not too fine nor too sharp, is thrust into the pile and the solution driven in. I have never limited my injection to a few drops, and have always injected all the tumors at one time. The pain is sometimes great, requiring morphia. Vaseline is freely used, and the tumors returned to the bowel. Bleeding has never occurred. A slough forms in three or four days, and is cast off, when we will find, upon examination, a clean surface, and that there is no evidence of a pile.

In the cases which I have treated, rarely has it been necessary for the patient to remain in bed more than twenty-four hours. Usually, they are about their rooms sooner.

1106 *P Street N. W.*

ART. V.—Personal Experience with Reference to Diphtheria in New Orleans, La., 1868-1894—also Progress of Discovery with Reference to Nature and Treatment of this Disease During the Past Twenty-Five Years.

By JOSEPH JONES, M. D., LL. D., of New Orleans, La.

PROFESSOR OF CHEMISTRY AND MEDICAL JURISPRUDENCE IN THE MEDICAL DEPARTMENT
TULANE UNIVERSITY, LOUISIANA, ETC

I removed to New Orleans in 1868, and came in contact with diphtheria in that year, and have continued to observe it in private and hospital practice up to the present year (1894). During this period, I have witnessed the disease in its various forms and manifestations, through all its varieties, extended, from the simple to the malignant and hæmorrhagic, and see no reason either to alter or elaborate the description given by the preceding observers.

I shall confine my present observations to points of practical interest as to its origin, hygienic and therapeutic treatment, as we have already presented, in the preceding numbers of this journal, facts relating to the history of this disease in New Orleans.

1. I observed certain facts which led me to attribute the propagation, if not the origin of diphtheria, to the filth engendered by milch cows, and also to their milk, in dairies confined to the limits of the city.

Thus, in the fall of the year 1879, following the great epidemic of yellow fever of 1878, I was called to visit a child whose parents resided on St. Andrew street, near the corner of Constance, in a wooden house, on a lot in which they kept milch cows, who apparently occupied the space around the house, inducing a most filthy condition. The father and mother made their living by selling milk. I found the boy *in extremis*, with loud, stridulous, and difficult breathing, a hoarse cough, and making violent efforts to introduce air into the lungs. He was cyanosed and prostrated by his efforts. On inspection, I found the fauces and larynx coated with diphtheritic membrane. I explained to his parents the danger of the case, and the urgent necessity of the immediate performance of tracheotomy. Both parents affirmed that they would not submit to this operation, but preferred that the child should die rather than have his throat cut. I used chlorine mixture, sesqui-chloride of iron, sulphate of quinia, alcoholic stimulants, boiled milk and lime-water, and employed the usual gargles and fomentations, but all to no avail. The patient died in about twelve hours after my first visit.

I endeavored to impress upon the parents the preservation of the two remaining children, and the necessity of informing me of the first symptoms of the disease in them. This injunction was violated.

In the course of a week I was sent for to come to the two remaining children, who were in the same desperate condition as the former case, namely, with the diphtheritic membrane almost closing the larynx, prostration, and cyanosis. I again urged, in the strongest terms, the immediate necessity of the performance of tracheotomy. They again refused, and, despite the various remedies used, both children died within twenty-four hours.

I attributed the origin and rapid fatal effects of these three cases, occurring in the same house, under the same circumstances, to the season, filth, sub-soil, climate, diet, to the communication of the poison of diphtheria through the milk or the filth of the cattle, or through both.

It is worthy of note that I had attended the father of these children about 1872 for compound comminuted fracture of both bones of the right leg, about midway between the ankle and the knee, the result of a kick of a mule while driving a milk-cart, with complete success—the limb having recovered without suppuration or shortening, only with the removal of a few spiculæ as it lay in the fracture-box, surrounded by bran and dressed with solutions of carbolic acid. I will also state the important fact that I had treated these children, previous to 1878, for both scarlet fever and measles, both recovering, but one of them having convulsions from the latter disease. They were also attacked with yellow fever in 1878, and my efforts were attended with success, no deaths occurring in the family, though every member of it was attacked by the disease. Unfortunately, all my efforts in behalf of these unfortunate people were frustrated by their neglect of all sanitary precautions by the diphtheritic poison thereby engendered, and by their ignorance and rejection of all surgical treatment.

I will give another instance of the apparent propagation of the diphtheritic poison through cow's milk.

In the fall of 1882, whilst the children were enjoying their vacation, my two youngest, a son and daughter, were attacked by diphtheria. I treated them with a mixture composed of muriate tincture of iron, chlorate of potash, dilute hydrochloric acid, sulphate of quinia, in solution, applied both locally and internally. I found great benefit from the free internal use of boiled milk and lime-water, in the proportion of four of the former to one of the latter. Gargles were also used, composed of one drachm each of chlorate of potash and tannic acid, with twenty drops of carbolic acid, with one pint of water. A liniment, composed of one drachm each of tincture of iodine, tincture of aconite, tincture of camphor, tincture of opium, and spirits of tur-

pentine, mixed with four ounces of olive oil, was freely applied about the neck, which was surrounded with a band of red flannel.

As my residence was isolated, at the corner of Washington and Camp streets; as there was no diphtheria in the neighborhood, and as the children were enjoying vacation, I was at a loss to know whence the poison of diphtheria had been derived. The mystery, however, was cleared up within a few days, after the appearance of disease in my children.

I was sent for in haste to visit the son of the man who furnished me with milk. I found him and his young wife living in a small house in the sixth district. The house was low, resting upon the ground; the rooms were small, ill-ventilated, and ill-lighted. To my amazement, I found a child of about two years of age dead and laid out in the coffin, and another child of about one year dying, which breathed his last in my presence.

Now, this young man and his father were engaged in the delivery of fresh cow's milk twice a day at my residence. I have always believed that the diphtheritic poison was conveyed in some manner by the milk delivered by these men.

2. Whilst holding the position of President of the Board of Health of Louisiana, during the years 1880, 1881, 1882, 1883, I regarded diphtheria as a dangerous and communicable disease, and instituted measures of isolation and disinfection and inspection. Whilst the disease never attained very formidable proportions, at the same time the measure instituted never attained the success either anticipated or desired. How far these measures were instrumental in controlling the spread of the disease I am unable to say with any degree of accuracy.

3. This disease is not confined to the city, but is spread up and down the Mississippi river, often occurring upon isolated plantations with fatal results, as is shown in the following instance:

In the winter of 1869, during a cold, damp spell, I received an urgent call from the late Dr. R. D. Fox, of Jesu-

it's Bend, to come to his assistance, as he had just lost a child by diphtheria, and one of his sons, a fine lad of thirteen years, was quite ill of the disease. I immediately went down on the small railroad on the left bank of the Mississippi river, to the point opposite the doctor's residence. I crossed the river in a small open skiff, during a dark stormy night. Upon arriving, I found that the child of his daughter, about two years of age, had died of the disease, and been buried near the spot where he was residing. His son I found utterly prostrated by the disease, with a gangrenous state of the throat, fauces, and surrounding parts. The breath was excessively foul and disagreeable. The worthy doctor and his devoted wife were exhausted by excessive nursing. I remained all night with the distressed family and afflicted patient, who died about 6 A. M. the next morning.

A few days after my arrival at New Orleans, I heard that the fine young man, of fifteen years of age, who I found aiding his father and mother in nursing, and rendering valuable assistance in furnishing milk from the cows, and many other kind offices, had died of malignant diphtheria.

Dr. Fox attributed the origin of diphtheria among these children to the fact that they had visited certain old houses in the neighborhood, and aided in bringing straw in their little wagons and wheelbarrows for the protection of the levee, which was then threatening in their vicinity.

4. I have witnessed cases of diphtheria in which there was no obstruction of respiration by the diphtheritic membrane, but in which death seemed to result in the direct action of the poison upon the heart, and the consequent prostration of the muscular and nervous systems.

5. I endeavored to ascertain the various methods of treatment pursued by the different members of the profession, but accomplished but little in this line which could be regarded as sufficiently full and accurate to be satisfactory and to serve the purpose of scientific medicine.

The remedies which appeared to be extolled by many were mentioned in the order of their relative importance:

- (a) Quinine.
- (b) Tincture of sesqui-chloride of iron.
- (c) Chlorine mixture.

- (d) Dilute muriatic acid.
- (e) Dilute nitro-muriatic acid.
- (f) Alcoholic stimulants.
- (g) Oil of turpentine freely used, externally and internally.
- (h) Bichloride of mercury or corrosive sublimate.
- (i) Chloride of potash.
- (j) Sulphite of sodium.

The transmission of the poison of diphtheria through the medium of the cow and of cow's milk has been rendered probable by the facts already recorded.

This important question, fraught with interest to the human race, and which was practically opened in the case of cow-pox and small-pox, by the labors of the immortal Jenner in 1798, may now be considered as placed upon the ground of medical evidence.

We have now definite grounds upon which to base our views of the cause of diphtheria. We would especially mention the labors of Lœffler and Klebs in 1883. The opinions of Lœffler, arrived at after much microscopical research, have been largely accepted by co-laborers. Lœffler, in the published account of his investigations, remarks that all observers have found bacteria in the diphtheritic exudate, micrococci most frequently existing in colonies, and especially abundant in superficial portions of the pseudomembrane.

At times, bacteria have been found in the lymphatics in the vicinity of the inflamed part. Every diphtheritic patch contains many species of bacteria which have been cultivated; but as they have not been isolated, the specific germ of diphtheria has not been determined. The micrococci present, he says, appear to be identical with those observed in other forms of disease affecting the mucous surface, and are therefore probably not the specific germ of diphtheria.

Another microbe, observed by Lœffler, and described by Klebs, in 1883, merits special attention. It is a bacillus,

motionless, partly straight, partly curved, of the length of the tubercle bacillus, but double its thickness. This bacillus is abundant in the pseudo-membrane, but is not found in the blood-vessels, lymphatics, or internal organs, so that its pathogenic action must be localized on the surface. If it be the specific principle, it must act by producing a poison where it is lodged, which poison causes necrosis, dilatation of the vessels, from which lymph exudes, and, entering the lymphatics and circulatory system, causes systemic infection. But in some typical cases of diphtheria, Loeffler was unable to find the bacillus—a fact which, of course, militates against the theory that this microbe is the specific principle; but he suggests that it might have died and been eliminated before the death of the patients. The bacilli were found in the exudate in thirteen cases of diphtheria; and cultures to the twenty-fifth generation, inoculated in guinea-pigs and birds, caused a whitish exudation at the point of inoculation.

W. Watson Cheyne recognizes the importance of Loeffler's researches, and thinks it probable that the micro-organism which causes diphtheria is a bacillus, which, lodging upon the surface of the throat, is propagated there. Having upon the mucous surface a favorable nidus for its development, it not only lies upon, but penetrates the superficial portion of the mucous layer and causes the exudation of fibrinous material. The pseudo-membrane thus produced consists, according to Cheyne, of the fibrinous exudate and dead epithelial cells. As the bacilli multiply and extend, the exudate enlarges. Cheyne believes it probable, from the nature of the cause, though demonstration is lacking, that the bacilli produce very poisonous ptomaines, which, entering the circulation, give rise to general systemic infection.

That the bacillus is the causative agent of diphtheria is rendered probable, and that systemic infection by the diphtheritic poison is not produced directly by the entrance of the microbe into the circulation, but by ptomaines which have sprung into existence through the agency of the mi-

crobe, is also the opinion of some of the highest authorities in the study of bacteria.

It is seen that the investigations of Cheyne, like those of Loeffler, Wood, and Formad (those of the latter two writers made in 1882), lend support to the theory that diphtheria is primarily a local malady, and that in certain mild cases it never becomes a constitutional, or is constitutional in a very feeble degree. Nevertheless, those who believe that diphtheria is primarily constitutional, base their opinion on facts that lend strong support to their theory, such as the incubative period of six or seven days in certain cases; the early recurrence of nephritis, even in twenty-fours in malignant cases; very severe and fatal nephritis and systemic infection in certain cases, when the disease of the mucous surface had been so trivial as to be scarcely appreciable.

The adoption of the theory of a specific microbe as the cause of diphtheria has led to the revival and extension of the use of corrosive sublimate, in the treatment of the disease, under the idea that it is a powerful germicide. Many other germicides, as the biniodide of mercury, calomel, carbolic acid, benzoate of sodium, sulpho-carbolate of sodium, have been employed with varying success.

With reference to the use of corrosive sublimate in the treatment of this disease, it is evidently not new, as it was prescribed by Dr. Tappan with apparent benefit in 1860-61. The establishment of the microbic theory of this disease, and the knowledge that the sublimate is a most efficient germicide, promoted its use, so that it has become the favorite remedy of many physicians; but we cannot subscribe to the large doses and almost reckless manner in which this powerful poison has been prescribed and even administered by many physicians in cases of diphtheria. On the other hand, the use of the sulphite and hyposulphite of sodium, in doses of one to two scruples every two hours, both as local and constitutional treatment of diphtheria—as recommended by the Italian and French physicians, such as Polli, Constantin, Paul, Burgreave, and others—appears to be far

more philosophical, and should be extensively employed and thoroughly tested by the practitioners of medicine in all countries.

With reference to the transmission of the poison of diphtheria, scarlatina, and other diseases, through the medium of cow's milk, we will briefly allude to the following observations:

Mr. W. H. Powers, in a report to the Government of the Local Board, has traced many cases of diphtheria to infected milk. Dr. Julius S. Clark has also given similar testimony. Dr. E. Klein, of London, in an address before the Royal Institution, regarding scarlet fever, finds that a microbe scarlatina is the cause of human scarlet fever, and that it produces in bovine animals a disease identical with the "Hendon" disease and human scarlet fever; and that, consequently, while the cow is subject to infection with human scarlet fever, it can, in its turn, be the source of contagion for the human species.

Henry E. Armstrong, Medical Officer of Health at Newcastle-on-Tyne, holds that milk is a more frequent source of tuberculous infection than meat; and in his article on the different diseases communicated to man by this food, he gives examples of epidemics due to milk, directing attention to the most important diseases, namely, enteric (or typhoid) fever, scarlet fever, diphtheria, and tuberculosis. Edward F. Brush, of Mt. Vernon, N. Y., deals with the same subject. E. P. Christian, of Wyandotte, Mich., shows the origin of typhoid fever epidemics in milk infection. J. W. Exline, of Denver, Col., shows the coincidence existing between the prevalence of phthisis and the dairy industry.

156 Washington Ave., Corner Camp Street.

Lumbago.—R. Potass-Iodid, - - - ʒij.
 Neurosine, - - - ʒiv.

M.—Sig.: Teaspoonful to dessertspoonful every three or four hours.

ART. VI.—Outerbridge's Wire Cervical Dilator for Obstructive Dysmenorrhœa.

By ALEXANDER IRVINE, M. D., of Evington, Va.

The wire cervical dilator of Dr. Outerbridge was brought forward by him as a cure for sterility in stenosis of the cervix; but this theory of sterility, as taught by the older Sims, has been demonstrated to be a mistake by such men as Pryor, Adrian, Krug, and others. Therefore, in the treatment of sterility, it has signally failed, but as a drain to the uterus it has no superior. It is for this reason (drainage) it has been found to act so well in dysmenorrhœa, where drainage and dilatation were necessary.

My attention was first called to this plan of treatment in dysmenorrhœa by Dr. Wilkes, of Bowling Green, Mo. He spoke of having had most excellent results where continuous dilatation during the period was found necessary. He introduces the dilator a day or two before the period commences. It is kept *in situ* by means of a cotton, or, better still, a wool tampon, impregnated with boracic acid. The dilator is best introduced with the woman in Sims' position, the uterus steadied by a tenaculum or volsellum forceps; but it can be done on the back with any bivalve speculum. It is very important to introduce the tampon before withdrawing the speculum, and holding it in position with the dressing forceps or sound close up against the cervix, so as to prevent the uterus from expelling the dilator.

In the majority of cases where forcible dilatation is done for dysmenorrhœa, it is found necessary to repeat the operation before each period. This can be obviated if, after making the forcible dilatation, you have the patient to wear one of Outerbridge's dilators during the interval, or at least part of the time, and at the monthly periods.

I only advocate Outerbridge's dilator in simple obstructive dysmenorrhœa, not in cases complicated with cervical

or corporeal endometritis, where dilatation, curettage and gauze packing is the treatment.

The dilators are of different sizes, made of silver wire or steel gold-plated, which can be bent in any shape needed. They can be introduced with the dressing forceps, but the *introducer* made for that purpose is much better.

ART. VII.—Proprietary Medicines—A Grave Error.*

By W. E. TODD, M. D., of Jackson, Miss.

To call the attention of the medical profession to one of the worst features of the "grave evil that confronts us," is the object of this paper—that evil, so-called proprietary medicines. Patent medicines *per se* are beyond the pale of medical recognition, as they are nostrums that are vaunted by the manufacturers as being panaceas for all ills to which the human body is heir, and any suggestion by a physician as to the absence of therapeutic efficacy is taken by the laity as advice prompted by a mercenary motive—engendered by jealousy. Physicians cannot and should not try to prevent patents from being bought or sold; but should endeavor to educate their patrons to abstain from the use of nostrums of which they know nothing, and leave the advertisement of such nostrums to so-called ministers of the gospel (?) (ir) religious periodicals and cheap trashy literature. Without the aid of the medical profession, proprietary, trade-marked, and non-secret remedies would soon prove a non-paying investment.

From my point of viewing patents and proprietaries, I think, of the two evils, patents are the less hurtful, for the reason patents have a given number of years to exist, and proprietaries are lasting throughout time; further, patents are taken by the laity for some prevalent or imagined ill, and proprietaries are being poured down a multitude of persons by a horde of quacks who know no more of what

* Read before the Mississippi State Medical Association, 1894.

they are giving than the poor fools that are being gulled. When reproached for their gross ignorance, their subterfuge is, why Messrs. Smith, Brown & Co. are as reliable as any firm, and don't you suppose the thing is what they say it is? Poor unlettered fools, don't you know Messrs. Smith, Brown & Co. are simply making their proprietaries for the money there is in it, and don't care for the result?

You will all admit that drugs fluctuate in price like anything else. Such being true, if staple drugs are used, your proprietaries ought to fluctuate also; but instead of such being the case, they remain at the standard price. Simplicity in prescribing is one of the essentials to success, and the man who allows Messrs. Smith, Brown & Co. to write his complex prescriptions for him, and he applies them to the patients he meets, is no better than any other quack.

From the way the medical profession is being gulled, the day is not far distant when all you will have to do is to send to Messrs. Smith, Brown & Co. and get a full supply of their cure-all remedies, and their pamphlets and books how-to-use-them, and you can have full-fledged doctors without the expense and trouble of a preliminary education. If the medical men of this country would refuse to receive and prescribe the samples that are sent them by these sharks, you would soon see all of the Messrs. Smith, Brown & Co. crowd getting back into the legitimate line of trade. For a long time I have refused to receive samples from itinerant distributors of Messrs. Smith, Brown & Co.'s wares, and tell them I often feel incapable of writing my own prescriptions, but can't see any advantage that will accrue to my patients by attempting to apply his patents to my cases. On one occasion, after refusing samples from one of these sharks, he drew back indignantly, and said he would take my name down, as there is only one other man in the United States who had refused to accept samples of him, and he had called on nearly every one. I told him to record my name, and that I hoped it would have the effect of relieving me of all future worry from his class.

Doctors, if you are not endowed with sufficient medical acumen to write your own prescriptions, using the best staple drugs, do the best you can and throw off that miserable proprietary medicine fiend that would make you dependent and subservient to his will. The use of such nostrums leads to neglect of study, laziness, and a most perfunctory performance of duty. (Such should not be the case, for medical men, to perform the duties aright that necessarily devolve on them, must persistently commune with their standard authors and periodicals of the day.

Medical journals are more to blame for patents and proprietary frauds than the men who read them. With few exceptions, the journals are all living from patent medicine pap, and that is why they are slow to raise their voices against the crying evil. I can name hundreds of the vilest patents that are lauded by reputable medical journals for their superior medical properties and their palatableness, when the publisher knows them to be arrant frauds. No wonder upwards of four hundred so-called medical journals can thrive in the United States.

I am sorry to chronicle so sad a state of affairs as seems to me to exist; but it certainly seems that the medical profession and the medical journals have become veritable Jonahs, and have been swallowed by these gigantic frauds—patent and proprietary medicines.

ART. VIII.—Can Phthisis be Prevented?*

By C. E. BUSEY, M. D., of Lynchburg, Va.

Year after year, as we scan the statistics of the causes of death of the human race, we are startled at the large percentage of tuberculosis, which appals us as it points to the medical profession with the finger of mockery, showing to the world how little we know of the treatment of this scourge of mankind, and our inability to check its ravages upon the manhood and womanhood of our race, who are being

*Read before the Lynchburg Academy of Medicine, March 13th, 1894.

relentlessly cut down by the scythe of the Great Reaper. This spectacle should incite us to buckle on our armour of thought and determine us to strike with the sword of science for deliverance of the human race from the bondage of an enemy, which drives its poisoned fangs into old and young, and breathes its tuberculous breath upon our maidens and youths to carry them to an early grave, there to remain forever the silent evidences of our baffled skill. I will not allude to the few deterrents used for the purpose, or rather, with the hope of retarding this disease, nor is it necessary to advance any special views as to its cause, as they would only be a small contribution to the vast mass of unsatisfactory erudition already evolved on the subject. Since the results of the elaborate researches of Prof. Koch have been given to the world, it can well be conceded that the *bacillus tuberculosis* is the *only cause of phthisis*.

It seems to be clear that nature has created certain microbes for the specific purpose of destroying animal life, in pursuance of what appears to be a logical sequence in the economy of nature, viz: creation, propagation, destruction. Nevertheless, human intelligence is kindly rewarded with the compensatory provision that a body in perfect health successfully resists the attacks of these swarming enemies of animal life. Therefore, the first and most important prophylactic agency to be invoked is the strict observance of hygienic laws, laws so well known to every physician as to require no enumeration.

It has been insisted by many of the profession that the disease is not hereditary, but I differ to this extent: A tuberculous mother certainly can infect her fœtus with the bacilli present in her own system; in such cases hygienic measures can be of no avail, except possibly to so improve the general health of the child as by the physical vigor thereby established to eliminate the inherited germs of disease from the system. Assuming that all the well-known precautions have been taken against infection from the sputa and otherwise of phthisical patients, I have only one other measure to suggest by which this terrible scourge of hu-

manity can be exterminated, which measure, by reason of its palpable unpopularity among the maidens and youths of this great nation, I consider practically impossible; that is, prohibiting marriage of persons who are susceptible to the attacks of bacilli of tuberculosis by reason of their family history until they shall have arrived at perfect physical maturity.

Conceding the impracticability of my last suggestion, our only hope now lies in the successful prosecution of the efforts being made by scientists to discover some means of destroying the bacilli, either by medication, or the propagation of some microbe hostile to the vitality of said bacilli. To this our efforts must be directed with the energy of devotion and love to our fellow-beings, which will result in relieving them of an enemy more destructive than "war, pestilence, or famine." When such a remedy is found and proven to be the exterminator of this microscopic foe to human life, then, and not until then, will our profession stand before the world as a science armed with certainty and embellished with hope, and mankind, led by bands of rosy-cheeked maidens and youths of Olympian beauty, march onward under the tutelage of the Goddess of Health and Beauty to peace, plenty and happiness, singing pæans of praise and showering blessings upon that science, which delivered them from the toils of that relentless enemy—tuberculosis.

ART. IX.—The Evolution of Empiricism in the District of Columbia.*

By J. S. McLAIN, M. D., of Washington, D. C.

While the title of the paper which I shall have the pleasure of presenting to your consideration to-night would lead to the conjecture that it should more properly come before an ethical, rather than a scientific body of medical men, the subject is of such vast and vital importance to each and all

* Read before the Medical Society of the District of Columbia, April 11th, 1894.

of us that I feel I may not be transcending the honored customs of this Society in calling your attention to *The Evolution of Empiricism in the District of Columbia*. By the elevation of the standard in a number of the various medical schools of the country, the awakening of legislators—I refer, of course, to State legislators—to a sense of their duties, and the necessities of the hour, the enactment of more stringent laws in regard to the practice of medicine in the different States and Territories, and the establishment of medical examining boards in many of those same States, the charlatan—his occupation gone—looks around him for other fields, and pastures new. His eye falls upon this fair city, and soon we learn that he has opened a “Medical Institute,” or an “Academy of Medicine and Surgery,” in the back parlor of some Washington boarding-house of the second class, calling it, probably, by the name of the city from whence he has just been vomited forth. It is not that I would seem to give the impression that the ascendancy of the quack, in this District, is of modern occurrence, but rather that, in more recent years, he has visited us in greater numbers, and his excessive assurance has been more pronounced.

Occasionally, they come to us in pairs; and, in that case, their arrival is pre-announced with flaming circulars, and notices to a suffering public of what great benefit is in store for them in a medical point of view. But more often he skulks into the city, and, after selecting a location whence he thinks he can best pluck the unwary, he calls them to him with bold, misleading announcements in the public press, baiting his hook, perhaps, with the promise of a week’s treatment free, or the distribution of ten thousand bottles of some specific, so-called “cure,” thereby showing his charitable purpose, his desire to aid the sick, and his great scorn of the almighty dollar.

The word “quack,” of Dutch or Saxon origin (there seems some uncertainty which), is, however, as old as the practice of medical empiricism, which has descended to us from most remote antiquity. Its many shapes and plausible exterior have paraded it before the people for ages; its

stealthy manner of approach, and unlicensed lack of truth in its announcements, have caused the populace, from mob to nobility, to listen to its teachings, if such they can be called, and flock to its boastful methods of relief for ills which they suffer, forgetting, in their haste to be healed, that the modest, educated and refined physician resorts to no such means, and that the glare and tinsel of the mountebank are assumed, only that the gain may be greater. He is generally an ignorant pretender, and glories in it. Indeed, it was said of one of the late visitors to our city, who, when he left us, did so with his pockets well-lined with District gold, that "so far from having any knowledge of the learned languages, he had great difficulty in expressing himself properly in his own;" but he had a remarkable shrewdness of intellect, and an itching palm for the one thing needful, his generous, open-hearted liberality causing him to treat the poor "without money and without price," as he advertises, in the large open hall, while the rich patient, for whom he spreads his net, is invited into the small room adjoining, where, amidst harrowing tales of his many and dreadful afflictions and greatly magnified prognostications as to what more fearful ills they will lead if not attended to at once, his pocket is bled to its full capacity and the owner's heart's content.

Mankind loves to patronize the quack; and while the object of the latter is to parade himself and his practice, the result of his expounding is not limited to those whose education places them upon the same level with himself, but is likely to influence all who have come to have any regard to the uncertainty of medical science, and who are unlucky enough to be within reach of his blustering swagger. I refer not to the individual, but to the system. Occasionally, we find that he shows himself very much alive to the best interests of his fellow-creatures, his ideas and some of his methods being worthy of effort in a better cause; but, generally, his habits of thought, his feelings, his education and his desires unite him with the masses; and it is with them he finds his social position, to them he makes himself un-

derstood, and for them he has a familiar name for every disease and for all his remedies, not hesitating to inform them that the faculty use the ancient languages in speaking of these things, because they know little of what they speak, and of that little, desire to keep their dupes in ignorance.

These are the characteristics of the average medical quack. Let us examine some of his methods of approaching the public, to induce them to invest in his knowledge and in his wares. Past and present, they have been and are very much the same. An advertisement, published sixty-six years ago, reads—with some slight difference in the wording thereof—as though it were taken from the morning paper of to-day. In the *National Intelligencer* of Sept. 15th, 1827, I find the following, headed—

“*Rheumatism.*—The subscriber, discoverer and sole proprietor of a cure for this painful disease, not only with pride, but with pleasure, announces to the public that this preparation of his hath affected more permanent cures for those who have been afflicted with the rheumatism than any medicine ever discovered in this or any other country. He will not dwell on its merits, resting satisfied a trial will, as it has heretofore done, speak its praises in language not to be misunderstood.

“For the consideration of Ten Dollars, current money, enclosed in a letter, a sufficient quantity will be sent to effect a cure in any case, with full directions for using it. The person using it will be placed under no restrictions with regard to drink or diet. The medicine may at all times be had by applying in person or by letter to the subscriber, sole proprietor, Samuel R. Smith.

“*Note.*—The subscriber’s name will, for the future, appear on the seal of each bottle in Roman characters.—S. R. S.”

On the same date and page appears the advertisement of an early emulator of the renowned Keeley-Cure;” and, although the “subscriber” does not claim that his remedy possesses all the virtues of a “double chloride,” he is by no means backward in recommending it to all mankind.

“*Dr. Chalmers’ Remedy for Intemperance.*—The astonishing success which this remedy has obtained in restoring habitual inebriates to sobriety has established its virtues

beyond all contradiction, and supersedes the necessity of any further comment. The remedy is as innocent as it is effectual, so much so that it is often given to children in febrile complaints, and frequently used as a family remedy for dyspepsia, etc. All that is required to insure its specific effect is to abide strictly by the directions. It is put up in packages sufficient for one individual cure, and accompanied with ample directions for its use, signed in the handwriting of the subscriber, without which none are genuine. We are induced to adopt this measure as, in view of the great celebrity which this medicine has obtained, there have been, and doubtless will be, many spurious imitations. On enclosing to us the usual price, \$5, postage paid, the medicine will be sent by mail or hand. To those who are unable to pay, on personal application of the individual at our office the medicine will be administered *gratis*.—(Signed) James H. Hart, M. D., and A. M. Fanning, *Successors to Dr. Chalmers*."

There is this much to be said in favor of the "Chalmer's Cure." They did seem willing to devote a certain amount to charity, provided the individual would appear at the office, so there might be no mistake in the matter of his taking his dose. I have yet to hear of the "Dwight Specific" having been administered in any case where the regulation twenty-one days and seventy-five dollars were not adjusted to the satisfaction of the company, and that, too, in advance.

On January 12th, 1830, an advertisement of "Albright's Columbian Syrup" appears, which goes to show that the patent medicine-man was about, even at that early date. The syrup is recommended as a sure cure for "necrosis or affections of the bones, white swellings, inveterate ulcers, kidney, liver and bilious complaints," and, of course, rheumatism. The advertiser publishes what he calls a "Medical Recommendatory Notice," praising the nostrum in the highest terms, and signed by one John J. Mayweg, M. D. Other certificates are framed in the usual way; the author of one testifies that he was "afflicted with wandering pains in different parts of the body, sores on his limbs, headache, sore throat, etc. He speaks slightly of what were, I suppose, other patent preparations of the day, in saying he had

used "Panacea," and "Catholicon," to no effect, but the syrup "being prescribed, in a short time it checked the progress of the disease, and in a few months performed a perfect cure." The usual caution as to the danger of purchasing imitations of the remedy and the price, "\$5 a bottle, liberal discount allowed medicine vendors," close the notice. The next column presents a lengthy advertisement in praise of "Hall's Trusses," with many testimonials—one signed by Dr. Valentine Mott.

From this date onward, the medical advertisements become more numerous. "Le Roy's Specific for Gonorrhœa," "An Invaluable Remedy," the notice reading, almost to a word, as those of to-day on the same interesting subject. "Barton's Cough Medicine and Drops," "Judkins' Ointment," the latter supported by a half-column of certificates and affidavits from many persons—one from the Hon. Jno. Talliaferro, a member of Congress, which, as the advertiser remarks, is "highly interesting, and which goes to show that Congressmen were not averse in those days, as they have not been in these, to seeking medical advice outside of the faculty.

"Keerl's Rheumatic Plaister," was another article highly certified to and propped up with affidavits. "Panacean Unguent," was one more; this "healed and cured any affection of the flesh of any kind; every family ought to keep it by them, because it has proved efficacious wherever used, and the sooner it is applied the better. Price, \$1 per bottle. Beware of counterfeits."

Along about the year 1835, the advertising oculist and aurist begins to get in his fine work. On July 13th appears the public notice of a remedy which "is not to be put in the eyes or ears; consequently, no danger nor injury can happen to them. The remedy is to be taken inwardly, is innocent and pleasant to take, and will do all that is promised for it." The advertisement is headed, "Hearing and Eyesight Restored," and below the caption is seen an extract from the published works of Dr. Benjamin Franklin, which would certainly appear to be a rather strong warrant

to any one who has made an important medical discovery not to hide his light under the proverbial bushel. It reads as follows, and is duly accredited:

"Whatever has a tendency to lessen the sum of human misery ought to be published and made known to the distressed and to the sick."

Evidently, the "subscriber," who seems to have been a medical man, had some qualms of conscience in the matter of advertising his remedy, and so flew to "Poor Richard" for support.

One certificate is from a Mr. M. Smith, who seems to have been affected with a rather severe case of deafness. He had "buzzing in his ears, and, at times, a hissing noise like the boiling of water in a tea-kettle." He sent \$5 and procured some of the remedy, which, "in about two weeks, perfectly brought his hearing back again." His certificate closes with the following, addressed to the printer, and which is somewhat out of the usual run of medical certificates:

"Friend Printer,—I am but a plain farmer, and never had my name in the newspapers, but as my brother-in-law, Starling, had his case put in, and my neighbors thought I ought also, I agreed that the above certificate may be printed so that others, in like distress, may know where I go for help.—(Signed) M. Smith."

One gentleman, whom it seems was also a farmer, the medicine "made so very strong that he could walk three miles to sell his marketing, a thing he had not done for a year before." Another had "specks of skin or film growing over his eyes, which he believed was called a cataract, and which, at times, must be cut away, but the principle of the doctor's remedy scattered this skin from the eyes and restored the sight again, doing away with the necessity and danger of cutting." The doctor told him that the medicine "acted by strengthening the nerves, as most cases of deafness and blindness were owing to weakness of the nerves; and in such cases the remedy would always cure." The

doctor himself was evidently not suffering from any "weakness of nerve" when he gave his patients this important and interesting information.

In the same month a Dr. Gebney advertises that he is the discoverer of a "Tetter and Ringworm Destroyer," "which has never failed to cure, nor will it ever fail if used according to directions." It is interesting to notice that these early advertisements, in almost every instance, warn intending purchasers to be on their guard against counterfeits. All quacks are fearful of imitation, and endeavor to create the impression that their preparations and discoveries are of such value and popularity that they will undoubtedly be forged, and hence each notice contains the caution that the discoverer's autograph or some other distinctive device will appear upon every parcel, to protect the purchaser against imposition.

The first notice of the now greatly advertised "Galvanic Belt" (the sales of which article, in its various forms, have made millionaires of more than a dozen men in the last thirty years), appears on July 4th, 1845. "The Patent Galvanic Belt, Rings, and Magnetic Fluid, for the Cure of Gout, Tic Douloureux, Indigestion, Deficiency of Nervous Energy, etc., etc." "They are in every way harmless," the advertiser remarks, "and are sold at prices within the reach of all." "Christie's Magnetic Fluid" is used in connection with the belts and rings, "to promote and render certain their efficient action, and to direct the galvanic influence to the particular portions of the body which are affected." Dr. Christie, as usual, "warns the American public to be aware of spurious imitations," and informs them that his pamphlet can be obtained without cost at the office of his agent in Washington.

"Sand's Sarsaparilla," which, according to the detailed list in the advertisement, will cure some forty-eight separate and distinct diseases and affections, occupies one-third of a column in a prominent place in the paper, and "Dr. Phelp's Compound Tomato Pills" are offered as a "substitute for

calomel," which drug, if Dr. Phelp's word was worth anything, seems to have been a very dangerous medicine about that time.

November 19th, 1845.—Dr. Jonas Green, who, if I mistake not, was the first homœopathic physician to settle in this city, "offers his professional services to the citizens of Washington and vicinity as a practitioner of homœopathy."

The efficacy of the combination of cubebs and copaiba seems to have become apparent to the advertising medical mind about the year 1850, when the now well-known house of Tarrant & Company offer an extract of those drugs made abroad, and which they certify is "the most certain, efficient and only remedy ever discovered." "It has," they say, "the unanimous sanction of the Medical Faculty of England, France, and America." A portion of the advertisement is rather amusing, and reads, "The remedy commends itself to the notice of travellers in places where the afflicted might be unable to procure the attendance of a physician, or the requisite remedies, or where, even if obtained, the articles might not be of that pure quality so necessary in effecting speedy and permanent relief. The patient uses it during the day, follows his ordinary avocations, will need no physician, will save his feelings from unnecessary exposure, and be effectually cured in a few days, and no one the wiser for his misfortune." Certainly, no greater inducements could be offered the "afflicted."

But it was during the years from 1861 to 1865 and 1866, that the profession in this city was invaded with large numbers of unqualified pretenders to medical knowledge, and quackery flourished with unabated vigor. Drawn here, with the countless thousands of others of all professions and trades, by the tumult of battle and rumors of war, the quack found a rich, fertile and productive field for his questionable practices in the presence of the officer and soldier on furlough, the sutler returning from his camp, loaded down with the profits of his sale, and the courtesan, spreading disease among all of them. Many of my hearers will

recall the appearance on our streets of the notorious Dr. Tumulty, and the observation he attracted in his daily drives on the avenue, behind his piebald ponies and followed by his fleet-footed grey-hounds, and during the latter part of the war, and for years afterwards, the familiar sign: "See Dr. Darby, and get Satisfaction," could be found on nearly every street corner. The former, so I have been told, after earning immense sums in his special practice, and cutting a wide swath in the sporting world of this and other cities, finally died, a victim to the loathsome disease which he advertised to treat so successfully, while the latter, when the demand for "Satisfaction" became limited, opened a little drug store on side street, and there ended his days a more or less respected citizen.

On June 1st, 1866, a Dr. B. J. Perry informs the public—through the medium of the above-named newspaper—that "thirty-eight years' experience and practice and special attention to obstetrics and diseases of women and children, enables him to promise more than ordinary relief in diseases of females, dyspepsia, rheumatism, paralysis, etc." He also publishes his office hours, but states he is present in his office only on Tuesdays and Saturdays during those hours. He was probably one of those peripatetic, periodical visitors to our city, whose ambition was so unbounded that he managed to work two or more towns at one and the same time.

As we approach more modern times in the history of quackery in this district, we find that the encouragement which empiricism has met with here, has incited the operator to extend his enterprise not only in the fashion and appearance of his advertisements, but also in the number of diseases which he engages himself to cure, encroaching with rapid strides upon the field of the specialist. It would seem that while the scientific medical world is advancing with gigantic steps, the world of the quack and pretender is keeping time therewith, taking its cue from the discoveries made by the scientists, and using the facts, proven by years of study and patient labor, to build for itself a structure of

fraud and deceit. Twenty years ago, the medical advertisement related chiefly to the treatment and cure of what they were pleased to call "private diseases" and "errors of early life," with an occasional notice of a cancer or rheumatic remedy, but seldom entering the domain of the specialist in medical science. To-day, all of that is changed, and although we still find references in abundance to the above-mentioned subjects, the gradual working out, the evolution of the system, has placed before us, with our matutinal coffee, a delectable catalogue of every form of disease, with symptoms coarsely enumerated and artfully-devised questions and statements, framed to attract attention, paraded before the gaze, so that he who runs may read. The old form of medical certificate has given place to the publication of the picture, "by patent process," of the fortunate individual who, having suffered for years all the tortures of the damned, was cured in less time than it takes to tell of it, with one or two bottles of the remedy referred to in the advertisement.

If we tire of the daily paper and take up the leading comic weekly of the decade, a full-page advertisement of a certain pill, which is "worth a guinea a box," stares us in the face. In large, bold type, a list of thirty-eight diseases stands forth, for the cure of which these pills are recommended; and then follows, in extremely small print, the words, "When these conditions are caused by constipation, and constipation is the most frequent cause of most of them." Further on, we read the following interesting and weighty information for the masses: "Constipation causes more than half the sickness in the world, especially in women, and it can be prevented. Those who call the cure for constipation a cure-all, are only half wrong after all."

Nor are we safe if we banish the newspaper, daily and weekly, from our homes. The ubiquitous "Dodger" follows us up, and is thrown into our door-ways, much against our will, there to rankle and fester, until cast into the street by an indignant parent, or picked up and read, with close

attention, by an inquisitive child—in either instance, contaminating the soil whereon it falls.

It is only a few short weeks ago that this city was flooded, and every residence therein supplied, with one or more copies of the advertisement of a quack "Hygienic Lotion," which consisted of a cheaply-printed notice of the discovery of a certain doctor, contained in a small envelope, and addressed "To the lady of the house. Please read carefully." The circular being removed from its cover, the first words to catch the eye were "Prolapsus Uteri, or Falling of the Womb." Then followed in detail a relation of the circumstances of the "Lotion" having been given to the world by request of many patients who were cured in private practice, the doctor stating he is a "regular" graduate of the University of Maryland (they are all "regular" graduates), and "having given his special attention to the above-mentioned diseases, knows that nothing but a local application will reach them." The appearance and wording of the circular would render it not worthy of a second thought, were it not for a small foot-note at the end, which contains the gist of the whole matter, it being a poorly-disguised invitation to the weak and erring of the other sex to commit a crime against the laws of their country and the law of God. It reads: "I would caution young married ladies in using it, to be careful and not use it in large quantities, as it is liable to prevent conception." The very price placed upon this nostrum shows that the originators well knew this little sentence would sell more bottles than all their fulsome praise thereof combined.

It would be a curious and interesting study to learn how many young girls, trembling on the brink of temptation and ruin, were precipitated, post-haste, on their downward journey by the perusal of the contents of this little sheet of pink paper contained in a small brown envelope, discovered, perhaps, on the door-step of their father's home and placed carefully away for future reference.

Could villainy be carried further, and are not the origi-

nators of such a scheme equally guilty with the principal figure in a recent trial in one of our criminal courts, who was charged with the offence defined by the prosecuting female witness as "relieving women"?

In the consideration of this subject, the question presents itself, Why has this city for years been made the field of operations for such a swarm of empirical practitioners and advertising quacks? The question is easy of answer. While several of the States are still open to the indiscriminate practice of medicine, there seems to be a growing tendency throughout certain portions of the country to erect barriers to check such promiscuous exercise of the rights and privileges of the profession. Such being the case, as stated in a foregoing portion of this paper, these irregular, unlicensed practitioners being driven from the scene of their previous pursuit of profit by statutory enactments, look for other places of settlement, where they will not only be free from the law's restrictions, but also find an opening for their peculiar means of earning a livelihood.

This district happens to be one of those unfortunate places, and while we are not alone in this woeful predicament, still the number of States and Territories which are decreeing by law to drive these gentlemen from their gates is increasing yearly.

Upon examination, I find that the following States and Territories require a candidate who desires to engage in the practice of medicine and surgery within their boundaries, must be examined in person before a State, Territorial, County, District Board of Medical Examiners or a Board of Censors; that is to say, the exhibition of a diploma from a reputable medical college is not sufficient, the candidate must appear before one of these bodies and prove by word of mouth that he is duly qualified to be trusted with the health and lives of such persons as he may be called upon to attend. These States are: Alabama, Florida, the Cherokee Nation, Indian Territory, Minnesota, Mississippi, New Jersey, North Carolina, North Dakota, South Carolina, Vir-

ginia and the State of Washington. In California, Colorado, Illinois, the Choctaw Nation, Indian Territory, Missouri, Montana, New Mexico, Oregon, South Dakota, Tennessee and Texas, the diploma requires to be endorsed by a college "in good standing," and the applicant may be submitted to examination by the State or District Board of Medical Examiners, while in Iowa, Kentucky, Louisiana, Maryland, New Hampshire, Pennsylvania, Vermont, West Virginia and Wisconsin, the diploma has only to be endorsed by the State Medical Society, by the State or Territorial Board of Examiners, or by the State Board of Health, without examination. The diploma is to be registered with State or county officials in Arizona, Arkansas, Delaware, Georgia, Idaho, Indiana, Michigan, Nebraska, Nevada and Wyoming; and lastly, there are no regulations, or they are inoperative in Connecticut, Kansas, Maine, Massachusetts, Ohio, Rhode Island, Utah and the District of Columbia. It is true that a regulation of the Health Office in this city requires that a physician, after entering practice, shall submit his diploma for registration with that office; but this is only for convenience in the matter of recording births and deaths, and I am informed by the Health Department that no penalty attaches to a non-compliance with the regulation.

The charter under which this Society exists, the seventy-fifth anniversary of which we have so recently and so successfully honored, though framed for the protection of its then members and those who were to succeed them, is inoperative in affording that protection, inasmuch as it permits any person to administer medicine or perform any surgical operation "with the consent of the person, or the attendants of the person to whom such medicine is administered, or upon whom such surgical operation is performed, without fee or reward." The act, however, goes on to state that nothing therein contained shall be construed so as to prevent any such person receiving a reward for the medicine or operation, "if voluntarily tendered or made;" and finally,

the only prohibition provided for is, that any person rendering such service shall be debarred "from collecting any fee or reward for the same by any process of law." As these gentlemen never go to law for the collection of their fees, which are usually demanded in advance, the provisions of the charter, as a factor in the matter, may be entirely eliminated.

The present state of the practice of medicine in this district, demonstrates and demands the necessity of some further regulation in regard to it which would tend, I am quite confident, both to the honor of the city, and at the same time to the benefit of the profession and the public. The case is of great moment and importance, for the health of that same public is concerned.

Certainly no profession is so infringed upon as ours, and, therefore, have we not the best reason to complain? While we find the powerful arm of the law interposing in other vocations to prevent or remove grievances, but little regard is paid to the enormous afflictions of the medical profession in this capital city. The question may well be asked, "Are not our lives and bodies worthy the care of the State, as well as our souls and our estates?"

It would not be a difficult task to suggest the remedy; and for the good of the people at large, the life and reputation of medicine, and those who teach and truly practice it, let us hope that some provision may be made, and that right speedily, against the exercise of the destructive, baneful and pernicious practices of which I have spoken.

1924 *N Street*.

Broma Soda.

"I have prescribed and used your Eff. Broma Soda with most excellent results, and I believe it to be superior to most salts on the market. It has been my stand-by in all cases indicating that class of remedies, and it does not fail."

T. L. WILLETS, M. D., Harrisburg, Pa.

ART. I.—Chronic Bright's Disease, with Special Reference to the Causes which Produce It.*

By WM. A. THOM, JR., M. D., of Norfolk Va.,†

PRESIDENT OF THE SOCIETY OF THE ALUMNI OF THE MEDICAL COLLEGE OF VIRGINIA.

The task of defining Bright's disease is difficult. Every author seems to have his own idea of what is meant by the name, and almost every practitioner follows his own opinion on the subject. Foster's *Encyclopædic Medical Dictionary* gives sixty two meanings to the term, which really seems to have become generic. The uncertainty we all feel as to just what is meant when Bright's disease is mentioned by another is evidence of the impropriety of giving other than a scientifically exact name to disease. Following the example of all the world, I must try to explain what I, individually, mean when I say chronic Bright's disease—which is that chronic nephritis, accompanied by albuminous urine, which passes through the stages of large red or variegated kidney, large white kidney, and contracted kidney—one or all—and usually goes on to death.

Prior to 1827, renal disease, as a cause of dropsy, was not recognized at all. It is true that Andral, Blackall, Alison, and Wells, had all observed albuminous urine in connection with dropsy, but did not attribute either to renal disease as a cause. Hence Dunglison's plea that they should share the honor of discovery with Richard Bright, who, in the year mentioned, in a Report of Medical Cases in Guy's Hospital, first pointed out the relation between "dropsy, accompanied by albuminous urine, and a granular disease of the cortical part of the kidneys which destroys by inducing other diseases." Up to that time, what seems to us the most extraordinary confusion of ideas existed as to the cause of dropsy, which was regarded as a disease in itself; thus, in 1784, no less an authority than the great Cullen attributed

*The title of this paper may convey a false idea of its scope. Its descriptions are designedly sketches, and intended only as an introduction to the suggestion of a mental causation of Bright's disease.

† Read before the Norfolk Medical Society April 5th, 1894.

dropsy, among other causes, to "an absorption of fluid from the air by the skin, which is changed from a perspiring to an absorbing state by languid superficial circulation." Nor was Bright's discovery at once accepted. As late as 1843, we find an acrimonious debate in progress between Prout, of Dublin, on the one hand, and Darnall and Carter, of London, on the other—the former asserting the correctness of Bright's observations, the others sneering at the importance attached to it. In 1838, Eberle does not even mention Bright's name; and in 1844, Elliotson disposes of the question in six lines. And even yet we are not all agreed as to exactly what the disease is.

The causes which are said to give rise to chronic nephritis are numerous. Among those universally admitted are alcoholism, malaria, mineral poisons, gout, and scrofula. Professor Stewart, of the University of Edinburgh in 1883, gave three divisions of the disease, each with its special causative influence. Thus, the inflammatory form is caused by cold and the blood poison, the waxy, by phthisis and other exhaustive diseases; and the cirrhotic by alcoholism, plumbism, or gout. Mannaberg claims a bacterial origin for the acute form, and Agnes Bluhm attributes an almost exclusive importance to the influence of the acute infectious diseases. Atkinson, in the *American Medical Journal* for 1881, attributes it to the use of iodide of potassium; but syphilis was present in every case that he quotes, and probably exercised its own influence. Professor Semmola, of Naples, has caused Bright's disease in the lower animals by the subcutaneous injection of the whites of eggs, and thus deduces his opinion that the use of animal food is a cause of the trouble. All or most of these are doubtless occasional, and in their turn causes of the lesions under consideration; but, to my mind, there is another cause more prolific than all the rest. I mean *Mind Strain*,* whether from

*I am aware that Dr. Austin Flint, Jr., called attention to the frequency of albuminuria among the Wall street brokers, but do not remember that he claimed their mental and emotional activities as a cause for it or for Bright's disease.

work, worry, or sorrow. No one man can have sufficient experience to say that he has proven or disproven such a fact as this, and I desire the assistance of my fellows in the candid examination of this subject.

In 1754, Haller wrote that the nerves which supply the kidneys "wind about the renal artery like a flexus; hence we may understand how passions of the mind suddenly increase the renal discharge to an excessive quantity." In 1845, Carpenter said, "The mental or physical labor which causes much waste of the nervous system is followed by an increase in the quantity of the phosphates in the urine." In 1890, Strumpel says, "The reason the kidneys are so often diseased is to be found in the fact that they eliminate all forms of injurious matter." Dr. Caspar, in the *Wiener Klinik* for March, 1892, attributes renal insufficiency (among other causes) "to great depression, with general enfeeblement, of the nervous system." Each one of us must have noticed in his own person the increase of the phosphates in the urine after mental labor.

Now, my theory is this: The kidneys have long been proven to be the emunctories of the brain. The brain, in a constant state of exalted activity, requires the elimination of a quantity of phosphates so largely increased from the normal twelve parts per thousand as to become a "form of injurious matter." All of this work being done by the kidneys, they are then put to a strain under which they slowly break down and take on chronic inflammation and disintegration until they become useless. This action, which I impute to the phosphates, would be exactly analogous to that of the urates in the gouty causation of the trouble.

This theory would, in large measure, account for the increased frequency of the disease in late years, which increase is indisputable. In 1843, Prout, who boiled a specimen of the urine of every patient who entered the hospital, claimed a "large experience" of Bright's disease, and cites thirty-six cases. Agnes Bluhm generalizes from eight

thousand four hundred and forty-two. In Prout's day the mental activities were in abeyance compared to what they are to-day. Corvisart speaks of the frequency of heart disease at the time of the first French Revolution. May this not have been the hypertrophied left ventricle of Bright's subsequent discovery? Are not old Haller's "passions of the mind," the cares of life, the mental burdens, greater now than ever before; and hence is not the elimination of phosphates by the kidneys vastly increased—increased to the extreme point of tensile resistance of renal power? Is not increased elimination of phosphates from over-mental activity one prolific cause of chronic Bright's disease?

As I have said, the experience of no one man is sufficient to decide this question; but I have collected a series of twenty-two unselected cases, which I have investigated with reference to this point. In seventeen, mental strain was undoubtedly present; in one of the seventeen, gout was also present; and in one, alcoholism, although the alcoholism was acquired after the Bright's. Of the remaining five, one was an alcohol habitué, and of four I have obtained no satisfactory history. Permit me also to cite one case not my own, but with the history of which I am familiar:

H. R. S., aged 49, Wall street broker, a patient of Dr. E. G. Janeway, has had trouble with his kidneys for years. Patient is a man of unusual intelligence, and has been taught urinalysis, and thus it is ascertained that, when his mind is at rest, albumin tests result negatively, while even the exertion of reading a newspaper will cause albuminous re-action at once.

Can a single case be more conclusive? Leube, Ferbinger, and others, have also demonstrated the presence of albumin in healthy persons after emotional disturbance. The effect of mind on kidney is proven. In 1835, Oliver claimed that one-eighth of the entire column of blood goes to the kidneys. An older writer says that one thousand ounces of blood pass through the kidneys, and are then de-purated every hour—claims which we must accept to the extent of admitting that the kidneys are very vascular or-

gans, and have a depurative power only less important than that of the lungs. We all know what will be the result of the failure of the function of the lungs. Carbonic oxide poisoning tells its tale more quickly, but not less effectively, than phosphate poisoning through the kidneys. By this statement I do not mean to convey the idea that the unrelieved charge of phosphates in the circulatory fluid would cause the symptoms sequent to this disease, but that, having rendered the kidneys inefficient by inflammation, the other deleterious matters, whether the urethane of Rade-maker, the urea of the older writers, or the carbonate of ammonia of Frerich, remain in the blood and cause the train of symptoms resulting in death, which we know as Bright's disease.

Does not this theory meet the indications of Strumpel's observation of the damage done to the kidneys by the attempted elimination of injurious matter? Does it not explain his otherwise inexplicable statement that the disease originates "of itself" in previously healthy subjects? Another set of facts which I conceive to support my theory is the statement of Hawthorne, that the ratio of deaths from Bright's disease to all other deaths is, in brooding, melancholy London, 1 to 49; in light-hearted Paris, 1 to 226; in dull, unprogressive Bombay, 1 to 2800; in careless, *dolce far niente* Genoa, 1 to 4303. Again, this is a disease of the middle age, the time of greatest mental activity; it is rare in careless childhood; rarer still after the grand climacteris, when memory occupies the mind with dreams of the past, and the struggles of life are quieted in the restfulness of age.

These reasons, and the observations afforded by my field of work, have convinced me that the same cause which is filling our lunatic asylums is also largely responsible for the

*Since writing this paper, I have seen Dr. W. T. Howard's remarks before the last session of the Medical Society of Virginia, in which he expresses his conviction that physiological chemistry will reveal the etiology of Bright's disease. I think this theory coincides with this thought.

rapid increase of our death rate from Bright's disease, and that that cause is the mental strain which the present state of civilization and the rapid pace of life demands.

As to the frequency of Bright's disease, Agnes Bluhm says that 46 per cent. of all cases at the Munich Dispensary belong to this genus.

The duration is very variable, running from a few months to many years. Its termination is almost always fatal, but there are cases of astonishing recovery. I instance one cited to me by my friend Dr. J. P. Tuttle, of New York: An old lady had been under treatment for this trouble for several years; an attack of scarlatina supervened; the chronic nephritis was converted into the acute form, resulting in recovery and no return of the old disease.

The symptoms are too well known to require more than a passing notice and a general grouping. Albuminuria is, of course, the chief one of them, and yet it is not of itself decisive; this symptom may be transitory, as in the case of a well-known gentleman of this city, who came to me for examination for life insurance seven years ago. I found his urine absolutely loaded with albumin, and advised him to see his family physician. The next day, I received a message from Dr. Nash that he had found a bare trace. I verified this fact, and made an analysis every day for a week or two, never finding a particle of albumin. I accepted this risk for my company, and the policy is still in force. I ascertained later that an unusual indulgence in brandy juleps was the cause of his temporary trouble.

Another case of albuminuria discovered in this way proved to be due to gonorrhœa.

The fact that the albumin in any given case is of renal origin being established, we must proceed towards the diagnosis by a process of exclusion. It must not be due to one of the acute infectious diseases, to febrile conditions, or to recent ingestion of unusual quantities of alcohol to mean chronic nephritis, and it must be more or less constant.

Next come the tube casts of various characters. The hya-

line is, according to Strumpel, a sort of base membrane upon which various deposits take place, and give the microscopic appearance and prognostic value to the different varieties.

The changes in the apparatus of circulation were noticed by Bright. The main features are the hypertrophy of the left ventricle and the increased arterial tension—the former probably due to the latter, although many writers maintain that it is due to the changed chemistry of the blood. The report of the Marine Hospital Service for 1888 contains the records of a case of Bright's disease proven by autopsy, in which the heart was notably atrophied. Can the increased arterial tension be due to a mild uræmic intoxication acting at first upon the vaso-motor system?

Owing to the wide difference of opinion existing between the best observers, I am forced to conclude that specific gravity cannot be trusted as a diagnostic factor.

The œdema is very important, and often requires the most active treatment. It must be combatted at once, for the sake of comfort, and it is often the cause of quick death. Many cases resulting fatally from œdema of the brain have been mistaken for and treated as uræmia, which is probably the most frequent mode of termination. The name of course indicates that the train of symptoms is the result of a failure to remove urea from the blood. The debate as to the correctness of this theory is not yet concluded, and all writers go back to Frerich's well-known experiments, by which he claimed to prove that the cause of the symptoms was the presence of carbonate of ammonia in the circulating fluid. Be this as it may, the origin of the carbonate of ammonia is certainly the product of the decomposition of urea, and hence the original statement holds good. In 1891, Dr. Rademaker, of Kentucky, published a theory that the uræmic symptoms are due to a crystalline organic compound which he called urethane, and which is a powerful narcotic. At any rate, we know what uræmic symptoms are—how deadly, and hence of what importance.

Owing to the time already consumed, the anatomical appearances must be spoken of only briefly. Following my understanding of Strumpel's thought, if not his words, as opposed to Bartholow's idea of absolutely different lesions, I think that the large red or variegated kidney, the large white kidney, and the contracted or cirrhotic kidney, are but three grades of the same cause of disease. It is true that death may and does take place during any one of these periods, but death also supervenes in many other diseases at varying stages, and it would be as reasonable to say that perforation of the bowel is not a stage of the ulceration of Peyer's glands as to claim an essential difference in the stages named above. The red kidney seems to me the original inflammatory stage; the white or yellow kidney, a later fatty degeneration, and the cirrhotic kidney, the result of cicatricial contraction following the morbid processes enumerated. They all kill, either as Bright originally thought, by inducing other diseases, or, as later investigations lead us to believe, by renal insufficiency.

The treatment of this trouble embraces, or has embraced, almost every therapeutic appliance—Dr. T. B. Wilkerson, of North Carolina, even reporting, in the *Virginia Medical Monthly* for October, 1886, a case cured by opening and draining the pelvis of the kidney. From Dr. Wilkerson's description, however, I believe this to have been a case of pyonephrosis. I shall not attempt to speak of the treatment of the œdema except to say that diuretics should be avoided. Among the newer remedies, nitro-glycerin has been highly praised; in my hands, it has only been of temporary benefit, and that by lessening the arterial tension, and thus relieving the laboring heart, it has produced comfort, but has not retarded the progress of the disease a moment. Dabney, of the University, advises the use of nitrite of amyl for præcordial pain. I suppose its action to be similar to the foregoing, but have no experience with it.

A review of the causation of the trouble seems to indicate that hygienic measures promise more than others. If alcohol

is the cause, for instance, abstention from alcohol; if gout, the careful treatment of the gout; if the too frequent and great elimination of phosphates, the avoidance of causes which excite the mind or call for mental labor. Under all circumstances, the most careful attention to the functions of the skin and bowels, avoidance of exposure to cold or dampness, and the enforcement of rest. Bartholow advises the use of bichloride of mercury, and I have had better results from its use than from any other single remedy; but I cannot explain its *modus operandi* unless I flee to the alterative idea.

The same writer also speaks most highly of the chloride of gold and sodium. Judging from its physiological action, it should be useful—it is tonic, produces sweating and salivation without the mercurial soreness; it induces a cheerful and serene condition of mind, and it is eliminated chiefly through the kidneys, where its curative action makes an impression on the connective tissue, and lessens or prevents its overgrowth. In cases where uræmic symptoms cause emergencies, pilocarpine is probably our best remedy, on account of its rapid action on the skin, but it must be watched for fear the great salivation may become an obstruction to breathing. In this condition, chloroform and chloral are also useful. I sometimes feel, however, that after uræmic symptoms have come on in a case of chronic Bright's disease, the truest kindness is to do nothing, as all our efforts but postpone the inevitable end.

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ART. XI.—Varicocele.

By STUART McGUIRE, M. D., of Richmond, Va.,

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 VA., ASSISTANT SURGEON ST. LUKE'S HOSPITAL, ETC.

Varicocele consists in a dilatation and tortuous condition of the veins of the spermatic cord. It is said to occur in about ten per cent. of all male adults, and is much more frequently seen on the left side than on the right.

The disease is not in itself a serious affection; but when we take into consideration its frequency, the physical annoyance it causes, the bar it often proves to entrance into public service, and the mental and sexual disturbances it sometimes produces, I am convinced its careful study will prove of value not only to the surgeon, but to the general practitioner as well.

The spermatic cord is composed of arteries, veins, nerves, lymphatics, and the efferent duct of the testicle. These structures are held together by loose areolar tissue, and are invested by a fascia.

The arteries of the cord are the spermatic, lying in front of the vas deferens, the deferential, which runs with it, and

the cremasteric, which is distributed to the muscles of the scrotum.

The veins of the cord have their origin from the back of the testicle and epididymis, and may be divided into two sets—an anterior, running with the spermatic artery, and a posterior, accompanying the deferential. The anterior set of veins is the larger and more important of the two, and by its anastomosis forms what is known as the pampiniform flexus.

After entering the inguinal canal, the veins coalesce to form two branches, which ascend on the psoas muscle behind the peritoneum, lying one on each side of the spermatic artery, and finally unite in a single vessel, which opens on the right side into the inferior vena cava, at an acute angle, and on the left side into the left renal vein at a right angle.

The predisposing causes of varicocele are found in the anatomical structure of the parts. The valves of the veins are few in number and defective in structure; the walls of the veins are not supported by firm underlying or surrounding tissues, and the veins are subjected to the pressure of the weight of a long column of blood flowing almost perpendicularly upward.

The fact that the left side is more frequently affected than the right, is due to the left vein being longer than the right, from the more dependent position of the left testicle; to the obstacle to the return of blood which exists on the left side from the left spermatic vein joining the renal vein at a right angle instead of opening into the vena cava, as is done on the right side; and to the exposure of the left spermatic vein to pressure from accumulations of faecal matter in the sigmoid flexure of the colon.

The exciting causes of varicocele are conditions which lessen the physiological resistance of the walls of the veins to pressure, or which determine an increase flow of blood to the parts.

Constitutional weakness, feeble circulation, and lack of

vascular tone, whether hereditary or acquired, are the most important etiological factors in the production of the disease. Masturbation and sexual excesses are mentioned by most writers as frequent causes, and undoubtedly, when long continued, they do produce congestion and dilatation of the veins, but in many cases, where varicocele exists in connection with perversion of the sexual functions, the varicocele is the cause, and not the result of the aberration.

Heavy lifting, violent exercise, frequent straining in defecation or urination, occupations necessitating an erect position, all have their influence in causing the trouble.

Usually in varicocele the anterior flexus of veins, or those accompanying the spermatic artery, is alone involved, but sometimes the posterior plexus, which surrounds the vas deferens, become secondarily affected, or rarely is the primary seat of dilatation.

The changes which take place in the veins are those which occur in varices of other localities. The veins lose their elasticity and contractility, and become dilated and tortuous; the walls of the veins become thickened, but their strength is not increased proportionately to the increase bulk and weight of blood they contain; the number of veins is augmented, both by the formation of new vessels, and by the dilatation of small venules.

The testicle of the affected side often becomes soft and shrunken, and the scrotum lax and pendulous.

Varicocele usually develops slowly, and the patient may be unconscious of its existence until the condition is accidentally discovered. The dilated veins form a tumor of a conical shape, the base of the cone corresponding to the testicle, and the apex extending upwards towards the inguinal canal.

The tumor has a peculiar knotted and convoluted feel, and imparts to the touch the sensation of a bunch of earth worms in a sac.

The tumor increases when the patient stands or walks, and almost, or entirely, disappears when he lies down. It is not usually tender to pressure, but if phlebitis exists, or if there

is neuralgia of the cord or testicle, it may be extremely sensitive.

Varicocele is not usually attended by much pain. Sometimes there is a feeling of weight and dragging, or a dull ache, which extends along the cord into the loins and back.

These symptoms are increased by exercise and warm weather. Occasionally, the pain is intense, and I remember one case where the suffering was so great that the patient insisted that I should castrate him, as he feared that a less heroic operation would fail to relieve him.

The existence of varicose veins often proves a constant source of irritation to the testicle, and leads to sexual debility and exhaustion, which may be evinced by pseudo-impotence, frequent pollutions, or spermatorrhœa. When this is the case; the patient suffers from great mental depression; and if conscious of past indiscretions, becomes morbid, introspective, and a sexual hypochondriac.

The treatment of the milder forms of varicocele should be palliative. The mental depression should be combatted by judicious encouragement and the exciting cause of the trouble determined, and, if possible, removed. The constitutional tone of the patient should be improved by regulating the habits of life, the use of cold shower-baths, and the administration of iron, quinine, and strychnia.

The scrotum should be supported by some mechanical device, such as a well-fitting suspensory bandage.

These measures usually give relief, and may result in a permanent cure. In the more severe cases, however, palliative treatment is ineffectual, the pathological changes in the veins progress, there is an increase in the size of the enlargement, and an aggravation of the symptoms, and more radical measures must be employed.

Coagulation and destruction of the veins by the injection of chemical solutions and by the employment of the electrolytic current, has been attempted, but the result has proven unsatisfactory, and their use are attended by dangers of cellulitis, architis, phlebitis and septic infection.

Operations for the relief of varicocele were discountenanced by authors who wrote before the days of aseptic surgery, and the effect of their teaching is still evident; but the safety and value of surgical interference are becoming more widely recognized, and the proportion of cases thus treated is becoming larger.

Radical operations for varicocele are indicated where the varicocele is sufficiently large to produce deformity; where the varicocele is very painful or causes reflex neuralgia of a severe type; where the varicocele is causing atrophy of the testicle of the affected side, or where the opposite testicle is diseased; where the varicocele causes marked sexual aberration or great mental depression, and where varicocele interferes with the occupation or prevents entrance into public service.

The operations devised for the cure of varicocele are so numerous that the limits of this paper will only permit of a description of the principles upon which they are based, and a brief account of the method which has proved most satisfactory in my hands.

The operations by *acupressure* consist in the gradual obliteration of the veins by pressure from needles or wires. The process requires from a few days to several weeks, is extremely painful, and is exposed to the dangers of septic infection.

The operations by *subcutaneous deligation* consist in strangulating the veins by passing an aseptic silk ligature around them by means of a specially-devised needle.

The operation is not attended by great danger, but the results obtained by the rank and file of operators do not fulfil the claims made for the method by its originators.

The operations by *open deligation* consist in exposing the veins by a short incision through the scrotum and ligating the vessels with silk or cat-gut. The advantages are the accuracy with which the veins can be tied, and the certainty that other structures are not included in the ligature. The danger of the operation is remote under antiseptic methods, and the results obtained are good.

The operations by *open deligation with resection of the veins* consist in exposing the veins, ligating them at two points, and excising the portion between the ligatures.

The result is more certain than the preceding method, but the danger of sepsis is slightly increased.

The operations by *deligation with resection of the scrotum* consists in ligating the veins by the open method, and then resecting a portion of the relaxed scrotum. The amputation of the scrotum does not complicate or enhance the danger of the operation, and greatly increases the chances of a permanent cure.

The operations by *resection of the scrotum* consists simply in the amputation of a portion of the scrotum. The scrotum is the normal suspensory bag for the testicles and when it becomes pendulous and relaxed, it fails to support them. By its retrenchment it is again able to fulfil its physiological function. The operation frequently gives permanent relief, and is the safest of the methods devised.

No one operation should be employed as a routine practice, but the surgeon should select in each case the method apparently best suited to its individual requirements.

The following is an operation which I have employed in five severe cases of varicocele, with uniformly good results. It is not original, but is merely a combination of the essential features of the methods of Bennett and Henry, and consists in the open deligation of the veins, the shortening of the spermatic cord, and the curtailment of the relaxed scrotum.

The patient is anæsthetized and the scrotum, pubes and thighs shaved, well scrubbed with soap and water, and irrigated with a bichloride solution. The vas deferens is isolated and slipped behind the other constituents of the cord, and the veins grasped and made prominent by the fingers and thumb of the left hand. An incision about an inch long is made over the cord parallel to its course, and the veins, covered by their sheath, exposed. The knife is now

laid aside, the vessels not having been denuded of their thin investing fascia. By means of an aneurism needle, a cat gut ligature is passed around the aneurism at the lower angle of the wound, and securely tied. The veins and their fascia are then freed from the surrounding parts for an inch or more above the ligature, and a second ligature passed around them at the upper angle of the wound, and tied. The ends of both ligatures are left long. The portion of the veins between the two ligatures is divided above and below, about a quarter of an inch from the ligatures, and removed. One end of each ligature is threaded on a needle and passed through the end of the stump which it encircles, and is thus made to emerge at a point opposite the knot. All bleeding is now carefully checked and the two stumps are brought together and kept in accurate contact by tying the corresponding ends of the upper and lower ligatures together. The ends of the ligatures are cut short, the wound irrigated and dried, and the incision closed by interrupted sutures.

The next step is the curtailment of the scrotum. The testicles are pushed up against the pubes, and the scrotum drawn through the blades of a scrotal clamp, which is tightened until it firmly grasps the skin. The clamp is applied from above downward, and care should be taken to depress it well towards the perineum, and to have the raphe of the scrotum in the middle line of the condemned tissue.

Interrupted silk stitches are now passed through the scrotum on the distal side of the clamp, and the redundant tissue cut away. The clamp is then removed, bleeding arrested, the stitches tied, and a dressing applied.

In none of my cases were there any complications, and the average duration of confinement to bed was ten days.

Dr. S. L. Barr, of Cavour, Dak., writes: "When a patient asks me if I can cure his or her headache, I unhesitatingly say yes, and do it with Peacock's Bromides."

ART. XII.—Treatment of Traumatic Epilepsy, with Report of Cases.

By J. I. DARBY, M. D., of Americus, Ga.

Within the two last decades, there has been more scientific progress made in brain surgery than in all previous years; and it does not appear unreasonable that the next decade will bring still grander developments in this department. The modern surgeon, with his better knowledge of cerebral physiology and the use of antiseptics, has been enabled to go with his scalpel into regions where the anatomist of only a few years ago declared fatal for him to invade, and the end is by no means reached. The vast amount of valuable knowledge accumulated, has been gathered from the field of operations by multitudes of busy practitioners, who have given us their individual observations and experiences in their special lines of work.

I shall speak of the causes of traumatic epilepsy and means of relief of such cases as are amenable to surgical treatment, and report a few cases in my own private practice.

In seeking for the cause of epilepsy, we cannot fail to recognize the influence of heredity. Even when directly due to traumatism, some individuals become victims of the disease from causes too slight and trivial to produce it, except those having hereditary tendency or constitutionally weakened nervous system. But there must be an injury producing its irritating effect either directly or indirectly upon the brain before we can have traumatic epilepsy. Sometimes it is caused by traumatisms which appear to be slight and on distant parts of the body, instead of being on the head. Frequently it happens that the disease does not manifest itself for quite a long time after the receipt of the injury, and in the beginning the attacks may be very slight, gradually growing more frequent and severe, until the typical seizure is inaugurated and the subject perhaps a hopeless victim.

The most frequent causes of traumatic epilepsy are fractures of the skull, in which the bone is depressed and rest-

ing on the brain, although we must remember that the outer portion of the skull does not indicate the extent of injury done the inner table. Irritable cicatrices have been known to produce violent attacks of epilepsy, which may cease altogether upon their removal. Hæmatomas and pathological growth beneath the dura resulting from violence, also are causes. Malignant neoplasms springing up in the cicatrix of wounds, have been known to produce it. Injuries on distant parts have been recognized as causes by such men as Dr. Bright, whose case of diseased tibia is reported in the American Text-Book of Surgery. The patient, who had both a depressed fracture of the skull and necrosis of the tibia, was operated on for the latter trouble, and five years subsequently had experienced no return of the epilepsy, notwithstanding the injury of the skull was not interfered with in any way.

In 1888, J. T., an old Confederate soldier, aged about fifty years, came up to me with an ounce ball in the left side of his neck, and gave the following history: During the siege of Knoxville, Tenn., in 1863, he was standing in a stooping posture and looking in the direction of the enemy, when he was shot with a minie-ball in the left superciliary ridge, the ball knocking the left eye out and passing in a circuitous route behind the ear and down in his neck behind the insertion of the sterno-cleido-mastoid muscle to the clavicle. The Confederate line soon fell into the hands of the Federals, and he was left two days in his condition upon the field without medical attention, it being taken for granted that he was dead. But when the detail was sent out to bury the dead, they saw that there was still life in him, and sent him to a field hospital, where medical attention was rendered and resulted in his recovery.

Twenty-five years having elapsed between the receipt of the injury and my first examination, made it difficult for me to say how much injury had been primarily inflicted; but it was obvious that the brain had been injured in the neighborhood of the left eye, and there was quite a depressed cicatrix in the superciliary ridge. He stated that after his recovery from the immediate effects of the wound there was but little trouble from it, until about three years prior to the time he consulted me, when he began to experience strange nervous spells whenever he attempted to

sleep on his right side. These spells gradually became more and more frequent and severe, until it was obvious to those who witnessed them that they were well-marked epileptic convulsions.

After hearing his statement, and finding the ball located as just stated, I suggested that his spells, as he called them, might be due to the presence of the bullet in his neck, and advised him to submit to an operation for its removal, to which he readily consented, and I cut it out without the use of an anæsthetic, he absolutely refusing to take chloroform or ether. The bullet weighed one ounce, and was slightly flattened and bent upon itself. The wound was treated after the usual antiseptic method and healed kindly, and the patient soon began to manifest signs of general improvement in that his seizures grew lighter and less frequent, which, in less than a year from the time of operation, ceased altogether and have not returned, notwithstanding the fact of his being a very intemperate man and receiving no medical treatment to prevent a relapse.

I have frequently asked myself whether his epilepsy was due to the pressure of the ball upon the carotid artery, interfering with the cerebral circulation when he lay down upon his right side, or whether it was produced by reflex irritation set up by the ball pressing upon some of the nerves in the neck? But I am disposed to believe that pressure, interfering with the proper distribution of blood in the brain, was the cause, especially as the epilepsy did not manifest itself until he was getting old and the adipose tissue less abundant than at the time of receiving the wound and for a good many years thereafter. When the fat in the neck had been absorbed, as it sometimes is in the aged, the ball came in more direct contact with the vessels and produced more effect. Another reason for this opinion is, that the seizures never came on while he was awake or sleeping on his left side. This man is still living in Alabama. Sometimes, as stated, the epilepsy does not come on for quite a long time after the reception of the injury, especially where the traumatism is slight, requiring considerable time for the meninges to become sufficiently thickened to produce the necessary pressure, and become a source of long continued

irritation and vexation to the nervous system. Injuries of the cranium received in early childhood frequently give but little if any discomfort until the period of puberty is reached, even in cases where the depressed bone rests upon the cerebral cortex.

Sometimes the causative injury has been forgotten by the patient and his friends, the brain being quite tolerant of pressure, and the sutures in the skull not fully ossified at this period of life.

In 1884, I was called to see a young man in the country, who, during his fourth year of life, was injured by a sharp-ended stick falling from a tree on his head, producing a depressed fracture in the upper and rather posterior portion of the left parietal bone. A physician who was practicing in the neighborhood was sent for, and pronounced the injury of trivial importance, and did nothing more than apply a little axle-grease, or some such remedy, and went home, leaving instructions for the family to send for him again if the patient's condition required it; but, as there was but little suffering attending the wound, the doctor was not recalled, and the little patient was soon out again, and, to all appearances, as well as usual. He continued to grow and enjoy good health until he was sixteen years old, when he began to experience strange nervous manifestations occasionally, which, as time went on, became gradually more frequent and severe until a genuine case of epilepsy of gran mal was developed. Remedial measures were resorted to by his attending physician, and, notwithstanding the intelligent efforts instituted by him, the seizures continued to grow more frequent and alarmingly severe, so much so that his life seemed to be in imminent peril. In this condition, I first saw him in his nineteenth year.

Upon examination of his head, I found the cicatrix about one inch long in the locality mentioned, and learned from his mother the particulars of the injury, but failed to make either her or the patient believe at this time that the wound received in his infancy had anything to do in the production of his epilepsy. They could not understand how so many years of good health had passed away between the receipt of injury and the beginning of his epilepsy. After telling them all about the necessity for a surgical operation, and describing the character, dangers and reasonable hopes attending it, and failing to procure their permission to tre-

phine, I went home and never saw the patient any more for two or three months; but the father of the boy finally came back and said that he, his wife and the patient wanted me to operate if I thought it could be done without destroying the life of the young man, and as there was nothing to be gained by delay, it was agreed that two days subsequently should be the time for doing the operation. Accordingly, arrangements were made, assistance procured, and at the appointed time we were on hand and ready to proceed with the work.

The patient was anæsthetized with chloroform and the scalp shaved and well scrubbed with antiseptic solution. The integuments were turned back by making a horseshoe incision sufficiently long to enable us to get plenty of room to remove a half-inch button of bone immediately in the most depressed portion of the cicatrix. When the bone was sawed through, the dura mater was found adhering to it, having grown into the fissure while the process of repair was taking place, but the attachments were shaved loose as close to the bone as possible, and after cutting away the thickened edges of bone with forceps, there being no other pathological conditions observed, the dura was stitched with catgut, the parts irrigated with carbolyzed solution, and the integument returned to its proper position and retained *in situ* by antiseptic silk sutures. The patient rallied well from the chloroform narcosis and was but little shocked, considering the character of the operation he had undergone. The wound was dressed antiseptically and in due time healed kindly, and the patient made an uninterrupted recovery, and has not from that day until the present time had another well-defined epileptic seizure, although he felt the aura and giddy sensations for some time after the operation, which gradually grew less and less until they ceased entirely, and he is now living near White Pond, Ala., a healthy, useful and happy man.

I will mention one other case, which, however, is of too recent date to be of much importance, a sufficient length of time not having elapsed since the operation to determine how much benefit the patient will derive from it.

The patient, a negro man, 27 years of age, was struck on the head, seven years previous to the operation, with a pick handle, producing a depressed fracture of the upper portion of the frontal bone on the left side of the longitudinal fissure. The cicatrix was nearly two inches long, and a con-

siderable portion of the bone was driven down upon the brain, but the patient did not experience any great suffering at the time of injury, and never had an epileptic seizure until four years after the receipt of the wound, but when they were once inaugurated, they rapidly grew more frequent and severe until the first of last January, when he was trephined by my partner, Dr. R. E. Cato, and myself. We removed two half-inch buttons of bone about one inch and a half apart, and with a ronger cut away the bridge of bone between the openings with a Gault Trephine. The edges were very much thickened, requiring considerable work with ronger, but it was finally pretty satisfactorily done, and the integuments returned and held *in situ* by cat-gut sutures. The drainage consisted of a small piece of iodoform gauze, which was left in the most dependent portion of the wound for three days and then removed on account of a slight epileptic fit, which was believed to be due to the pressure produced by the gauze becoming saturated and heavy with secretions from the wound. The wound was treated after the modern antiseptic method, and the patient made a good recovery, and has not had another symptom of his former trouble, and says he feels better than he has for five years previously. He is taking large doses of bromide of potassium three times daily, which will be kept up for quite a good while to prevent a relapse.

The only remedies to be relied on in the treatment of traumatic epilepsy is the trephine in depressed fractures and the scalpel in other traumatisms, which may produce reflex irritation of this character, and when the bone is removed in fractures, the dura should be opened, and if the cortex of the brain shows signs of injury, it should be carefully cut away, and the wound stitched with cat gut and closed antiseptically. When the bone is not cut away in small bits, it may be replaced in the opening and expected to cause no trouble, provided the button is not thicker than the surrounding bone. Prevention is better than cure, and it should be the purpose of the surgeon to prevent these phenomena by operation in all cases of depressed fracture as soon as he sees them, as the operation is more simple at that time, and if a button of bone has to be removed, he can usually select the locality for his trephine, and thus keep

away from dangerous areas, such as the meningeal arteries and sinuses, as well as preventing strong adhesions of the dura and the development of epilepsy. After surgical operations for this disease, the patient should be kept on medical treatment for at least two years to prevent a return of the trouble, and it is in this class of cases that we may reasonably expect good results. Bromide of potash, in full doses, has given the best results, but of late a solution of bromide of gold and arsenic given in five to ten-drop doses, has given very satisfactory results. The patient should, if possible, be induced to live a temperate and systematic life, sleeping regularly, eating moderately, and keeping his digestive and excretory organs in a healthy condition. Especially is it necessary for him to abstain from the excessive use of tobacco and alcoholic stimulants.

Clinical Reports.

A Series of Twenty-five Abdominal Sections.

By I. S. STONE, M. D., of Washington, D C.

The *Virginia Medical Monthly* for March, 1894, contained a report of the first twenty-five of my second hundred sections. The present list was completed in October, 1893. One death (xliv) occurred, due to operation for long standing pelvic suppuration. In this case, the death was without doubt due to the action of the anæsthetic (ether). Not a single ounce of urine was secreted during the twenty-four hours that the patient lived after the operation. The autopsy revealed a perfectly satisfactory state of the peritoneum, pedicles, etc. The time of operation did not exceed forty-five minutes. This fatal result was the first since No. IX of my former report.

Of this list nine were for severe destructive suppuration of the Fallopian tubes and ovaries. In every instance, the operation was difficult and full of danger. Added to this,

in nearly all the cases was a condition of profound anæmia and sepsis, with its destructive effect upon other organs not directly influenced by suppuration.

Other operations were as follows: 1 broad ligament cyst, 30 lbs.; 1 oöphorectomy for fibroid; 1 oöphorectomy for menstrual epilepsy; 1 extra-uterine pregnancy; 1 ovarian cyst, 20 lbs.; 2 exploratory operations; 1 herniotomy; 1 supra-pubic cystotomy; 1 vaginal hysterectomy; 3 supra-vaginal hysterectomies; 1 nephrotomy; 1 dermoid cyst of broad ligament; 1 salpingo-oöphorectomy for old salpingitis and retro-flexion.

CASE XXVI—May 15, 1893, Mrs. F.—*Fibroid of Uterus Size of Large Cocoonut—Double Salpingo-Oöphorectomy.* Right side hydro-salpinx and cystic ovary containing one ounce of fluid. Left hydrosalpinx with very adherent and softened ovary. Time, 18 minutes. Recovery.

CASE XXVII—May 17—Mrs. B.—*Double Inguinal Hernia.* Right side much more difficult than left. After extirpation of sac the entire tract on each side closed with buried silkworm gut permanent sutures. Perfect result from time of operation until the present, nearly one year.

CASE XXVIII—May 23—Mrs. J., age 30—*History of Pelvic Disease for several years—Double Tubo-Ovarian Abscess.* Several ounces of pus on each side. Rectum severely torn in cul-de-sac. Closed in Trendelenburg posture. Glass tube and gauze drainage, also aristol over the site of the former adhesions. Time, 47 minutes. Sinus remained for several months after operation, then closed. Recovery.

CASE XXIX—May 23—Miss B., age 21—*Double Salpingo-Oöphorectomy.* Right side pyosalpinx and ovarian abscess. Left tubo-ovarian abscess. Two ounces pus on each side. Time, 24 minutes. Patient was very weak at time of operation, had severe pelvic peritonitis. An operation requiring one hour would have been followed by fatal result. Patient promptly recovered after rallying from shock.

CASE XXX—May 30—Mrs. D., age 25—*Exploratory Laparotomy* to ascertain cause of obscure pain back of uterus. Adnexa found in good condition, except one ovary had become cystic. Cysts opened and organs returned without removal. Recovered from operation.

CASE XXXI—Miss G.—*Cystitis—Supra-Pubic Cystotomy.* Drainage. Recovery.

CASE XXXII—June 3d—Miss M.—*Hysterectomy for Uterine Myoma*, with adherent dermoid ovaries. Complete

extirpation. Badly torn meso-colon carefully closed. Some shock, then complete and satisfactory recovery. A very difficult operation, due largely to the diseased appendages. Time, 76 minutes.

CASE XXXIII—June 5—Mrs. P.—*Exploratory Operation* to ascertain nature and extent of suspected malignant disease of liver and peritoneum. Flushing, drainage. Recovery from operation. Died a few months later of malignant disease. Time, 15 minutes.

CASE XXXIV—June 7th—Mrs. H.—*Extra-Uterine Pregnancy*. 2½ months. Dead fœtus. Placenta, fœtus and sac removed. Pelvic peritonitis. Drainage. Quick recovery. Time, 34 minutes.

CASE XXXV—June 17—Mrs. C.—*Double Salpingo-Oöphorectomy for Pus*. Disease had existed for at least two years. Albuminuria and casts (?) present. Very anæmic. Left tubo-ovarian abscess—six ounces of pus. Right pyosalpinx and abscess of ovary. Very difficult operation. All organs hidden from view and touch by adherent omentum and bowel. After shock, complete and satisfactory recovery.

CASE XXXVI—June 14—Mrs. G.—*Exploratory Operation* to ascertain nature of ovarian and vesical disease. Dermoid cyst of left broad ligament removed, one ounce. Tumor of bladder found. Suspected sarcoma. Recovery from operation.

CASE XXXVII—June 21—Miss W.—*Salpingo-Oöphorectomy* for old pelvic peritonitis and its results. Retroflexion uteri, etc. Uterus secured in ante-version. Recovery. Time, 16 minutes.

CASE XXXVIII—June 21—Miss B., age 38—*Complete Supra-Vaginal Hysterectomy* for myoma. Weight of tumor, five pounds. Time, 45 minutes. Complete and satisfactory recovery in two weeks.

CASE XXXIX—July 3d—Mrs. F.—*Double Salpingo-Oöphorectomy* for pus. Right side large abscess containing fully one pint. Left pyosalpinx two ounces pus. Flushing, drainage. Prompt recovery after some shock.

CASE XL—July 8—Miss W., age 27—*Pyosalpinx*, both sides. *Ovarian Abscesses* aggregating twenty ounces of chocolate colored sero-pus. Quick operation. Perfect result.

CASE XLI—July 12th—Mrs. A., age 30—Left, 30 lb. *ovarian cyst*. Omental and pelvic adhesions. Right appendages diseased and removed. Time, 25 minutes. Prompt recovery.

CASE XLII—July 15—Mrs. K., age 30—*Pelvic Suppuration*

of long standing. Abscess had ruptured through bowel and vagina. Large tubo ovarian abscesses. Densely adherent to everything. Bowel severely injured. Great force necessary in separating firm adhesions. Much shock followed the operation, then quick recovery. Time, 38 minutes.

CASE XLIII—July 29—Mrs. R.—*Pyonephrosis—Nephrotomy*. Drainage. Improvement. Patient refused to have nephrectomy done and is not yet well.

CASE XLIV—August 16—Mrs. G.—*Pelvic Abscess*. Long history of severe suppurative disease. Operation not unduly prolonged, but death resulted in 24 hours. No urine secreted after operation. Pus found in pelvis of one kidney at autopsy. Ether anæsthesia.

CASE XLV—September 13—Miss L.—*Ovariectomy* for 30 lb. broad ligament cyst. Time, 36 minutes. Recovery.

CASE XLVI—September—Mrs. W.—*Hysterectomy* for fibrocyst of uterus. Baer's operation. Tumor and contents, 15 lbs. Perfect result. Time, about one hour.

CASE XLVII—September 20—Miss G.—*Double Salpingo-Oöphorectomy* for pyosalpinx. Dense adhesions. Several ounces of pus. Excellent result.

CASE XLVIII—September 23—Mrs. J.—*Oöphorectomy for Menstrual Epilepsy* and incipient insanity. Recovered from operation promptly. Improvement.

CASE XLIX—September—Mrs. R.—*Vaginal Hysterectomy*. Removal of stump of uterus remaining after hysterectomy for fibroma. This done preliminary to closure of old sinus left after operation by another operator.

CASE L—October 7th—Mrs. L.—*Double Salpingo-Oöphorectomy* for long standing salpingitis and ovarian abscess. Pelvic peritonitis and great pain finally compelled patient to submit to the operation. Perfect result.

Tonic in Painful Atonic Dyspepsia.

R̄.—Antikamnia.....grs. lxxii (72)
 Extr. Nucis Vom.....grs. vi
 Extr. Gentiangrs. xii
 Quin. Muriat.....grs. xxxvi
 Pulv. Aloes.....grs. ii
 Extr. Belladonna.....grs. iss

M. Ft. Pil. Num. xxiv. Sig.: One three times a day.

An Unique Case of Twin Childbirth.

By **W. A. BOLLING, M. D.**, of Pocahontas, Va.,

ASSISTANT PHYS. AND SURG. S. W. VA. IMP. COMPANY.

The following remarkable case has just terminated, to the credit of the accoucheurs:

Mrs. ———, æt 36, millipara, married nine months, was unusually large from sixth month, causing her to look for twins and to make the necessary preparations. Her mother and sister both had twins. Previous condition good; at eighth month considerable œdema of the lower limbs and face occurred, followed by severe lancinating pains emanating from the uterus and extending through to the back, causing headache and general depression. This was quickly relieved by acetanilid compound in four-grain doses every two hours.

Active labor took place March 26th at 1 o'clock A. M. From the start, pains were insufficient, and at 8 o'clock A. M. (of the same day) complete uterine inertia intervened; the head resting upon the perineum, at the outlet; rotation only partially complete; large caput succedaneum at juncture of parietal and occipital bones, to the left. Simms' short forceps were applied over left portion of face and back of occiput, and delivery of a living child, at 10:30 o'clock A. M., took place, requiring considerable traction. The patient then remained in a *perfectly comfortable* condition, with *entire absence* of pains for thirty-seven hours, at which time the bag of waters began to form, active labor pains set in, and at the expiration of two hours a second child was delivered, buttocks presentation. Child had been dead more than a week, evidenced by beginning decomposition. The placenta—there being only one—was expelled readily about twenty minutes later, preceded, though, by a considerable rush of water, deluging the bed clothes. The patient rallied rapidly; good uterine contraction took place; hot carbolized water was used to flush out the vagina; milk punch given at intervals of three or four hours. The next day quinine was given in four-grain capsules every four hours; milk punch continued; perfect rest and quiet enjoined; hot carbolized douche twice daily; the patient made a perfect recovery without any unusual deviation from a convalescent parturient.

The case is unique on account of the patient's age, the uterine inertia which was followed by such rapid recovery, and the absence of septicæmia.

No. 50 Water Street.

Spina Bifida—A Cure by Iodine Injections.

By S. WALTER WOODYARD, M. D., of Willowton, W. Va.

In the latter part of February of the present year, I was called to see Willie M., æt. two months. I was informed that the child had a tumor in the lumbo sacral region of the spine, and that the midwife in attendance wanted to poultice the same.

I found that I had a spina bifida to deal with. At this time, the tumor was about the size of a goose egg, sessile, translucent, and fluctuating; all the skin covering the tumor except a place in the centre about the size of a ten-cent piece was in good condition. When the child cried, the tumor would bulge out and become tense.

In treating this case, conservative methods were employed for a few weeks, until the patient was in good condition, when Dr. J. R. Boyd was called in consultation. As the tumor was growing rapidly, and from all indications would soon rupture, we decided to use iodine injections, thinking we would give our patient a chance at least for its life. Accordingly, we aspirated one drachm of fluid from the tumor, and immediately injected into the tumor one drachm of—

Rx.—Iodini gr. x
 Potassi iodidi.....gr. xxx
 Glycerini, C. P. ʒj. Mix.

Following this injection, a slight degree of coma was manifest, which lasted about twenty-four hours. The tumor became slightly inflamed for a day or two; after this, there were no effects of the treatment appreciable. At the expiration of one week, the same treatment was repeated. No coma was shown; the tumor became inflamed within twenty-four hours; the patient was very restless, and refused to nurse. From this time on, the skin became wrinkled, and the tumor began to diminish in size, and at the end of the third week it had almost entirely disappeared. Nothing remained but a bursa about the size of a twenty-five cent piece. The patient is now in good condition.

Correspondence.

The International Medical Congress.

ROME, ITALY, March 31, 1894.

Hundreds of doctors have taken advantage of the location of the International Medical Congress to visit the many museums churches, and antiquated places and remains to be found in Italy. Not a few have also visited Vesuvius Copri, the Copti of the artists, Solfotora Monte Nueva Pompei, Herculaneum, Stabiae, etc.

The City of Rome is overcrowded with doctors and their families. Every hotel, every pension and boarding-house is full; rooms are not to be had at any price.

The International headquarters are in the Palace of Fine Arts, near the King's Palace, and here also is the International Medico-Chirurgical Exhibition, which is said by judges to be one of the finest, if not the finest, that has ever been collected.

The exhibit of the mineral springs waters of Italy is immense, and it is thought that their virtues will compare favorably with those of the German spas if they do not surpass them.

On the evening of March 28th, a reception was tendered the physicians and families at the Palace of Fine Arts. It was a magnificent affair. Had there not been such an immense crowd, it would have been better.

Among the most interesting things at the Exhibit were the medical and surgical implements found in the ruins of Pompei and Herculaneum, and sent from the rich collection of the National Museum at Naples for this occasion. It must be admitted in some things—mainly specula—they were not far behind those of our day. There are, of course, the greatest number of Italian doctors present; next, Germans; then English and French, with very few Americans.

On the 29th March, 1894, at the Constanzi Theatre, near the Palace, the Eleventh International Medical Congress was opened in the presence of Their Majesties, the King and Queen of Italy, with all the paraphernalia peculiar to those countries possessed of royalists. At the same time, the immense theatre was packed to its utmost capacity with only doctors and their families. It was an occasion of "swallow-tailed coats," white gloves, and ties. The many attendants

on Their Majesties, with their old Roman helmets, led one to think of the time Rome was "mistress of the world." At the Amphitheatre Flavio, the Gladiators wore the self-same style of helmets.

Signor Crispi, on behalf of the Government, welcomed the doctors attending the Congress to Italy. Minister Baccelli delivered an oration in Latin on the occasion of the last Congress in Berlin. Prince Ruspoli, Mayor of Rome, greeted the Congress in the name of the City of Rome. Then the celebrated Virchow arose amidst round after round of deafening applause, and saluted Rome and Italy in the name of the last Congress at Berlin in 1890.

The United States Government was represented by Surgeon-Major Alfred C. Girard, U. S. A.; Col. B. J. D. Irwin, U. S. A.; Dr. F. L. Dubois, U. S. N.; and Dr. Richard C. Dean, of Washington, D. C.

After many presentations of members to Their Majesties, Congress adjourned for the day, which was occupied in sight seeing.

A special committee of ladies in Rome were appointed, whose duties were to give the ladies attending Congress any information necessary and accompany them on their excursions.

It must be admitted that the English-speaking people have poor chances in this Congress, for very few of the foreign doctors have occasion to ever learn that language. A protest was made by the English-speaking members, complaining of deficient provisions; after which the General Secretary made a slight improvement. It was the general consensus of opinion that the system of the Congress, together with its management, were uncommonly poor.

On the 30th, at 8 A. M., the immense buildings of the Polyclinic were opened to the Congress. They are just being completed, and are built aseptic and with every modern convenience. They comprise seven large and distinct buildings, reminding one very much of St. Thomas Hospital on Albert Embankment, London. They are situated just outside the old Roman walls, near Porta Pia (through which you enter), made famous from being the gate through which Nero fled barefooted for his life in A. D. 69, and through which the Italian troops entered in 1870 victorious. A suitable location for a hospital as the numerous old Roman and Jewish catacombs in the vicinity will attest.

The members presented themselves at the early hour very Punctually; the Sections adjourned at 3 P. M. and at 4 P. M.; the General Sessions were held at the El Dorado.

More members were enrolled at this Congress than any previous one held, and 2,700 scientific communications were received, four times more than at the Berlin meeting; 32 governments and 425 scientific bodies were represented. Germany, 900 representatives; England and Colonies, 700; Austro-Hungary, 700; France, 700; Spain, Russia, Switzerland, and United States, 200; and 500 more by Portugal, Sweden, Norway, Australia, Holland, Belgium, Turkey, Roumania, Servia, Greece, Mexico, Japan, South American Republics, and the Borneo and Fiji Islands.

Among the noted men present in the Section on General Pathology were Virchow, Cornil, Chiari, Fränkel; in Physiology, Foster, Rosenthal, Chauveau, and Danieleroskj; in Internal Medicine, Bouchard, Da Rocha, Gerhardt, Grainger, Stewart, Nothnagel, and Ziemssen; in Pediatrics, Jacobi, Mare, Maddew, Ranke, and Gamba; in Neurology, Rathe, Marel, and Hirt; in Surgery, Spencer Wells, McCormac, Macenrie, Micultz, Pean, and Kocher; in Gynæcology, Bantock, Simpson, Mastin, Gusserow, Winkel, Pawlik, Edebohls, and Pinard; in Otology and Laryngology, Politzer, Fränkel, Sajous, Schmidt, and Moos.

Many other Sections had equally as noted men present; in fact, they were too numerous for mention in a letter as limited as this.

Bacteriology played an important part in all Sections, and it is easy to discern the fact that these small beings are still shaking the pillars of medical and surgical science; and it is equally true that not half the attention to bacteriology is paid in America and in England as on the Continent; and that in scientific apparatus for discovering and destroying microbes they far exceed us in every way.

The subjects of *Transfusion* in the Section on Internal Medicine, and the treatment of diseases produced by *Filaria*, were well handled by von H. Ziemssen, De-Dominicis, Schubert, Bancroft, and Milton Love.

In the Section on Pediatrics, Escherich, Baguisky, Squire, Heubnor, and Ritter, discussed diphtheria and its complications.

In Obstetrics and Gynæcology, Marisani, of Naples, Pinard, of Paris, and Leopold, of Dresden, each led, opening the discussion of Lymphysiotomy—its indication, operation and technique. Each one made good points; and, while Marisani, who may be called the father of Lymphysiotomy, is no larger than a ten-year old boy, it must be conceded that his mind compensated in what his body was deficient

in as to size. Jodson, Falsier, Kufferath, and Chiarlconi, took part in the discussion. In General Surgery, W. Macerini, of Glasgow, read an interesting paper on Pyogenic Disease of the Brain; Champoinare, of Paris, on Trephining the Cranium, with Report of Sixty-four Cases; Tidiuat, on Surgical Treatment of Trigeminal Neuralgia. Forty-five papers in this action alone were read this day.

The meeting adjourned.

At 4 P. M., at El Dorado, Prof. Virchow delivered an address. His subject was "Morgagni and his Influence upon the Anatomical Study." When Prof. Virchow appeared he was greeted by a triple round of applause. He began by learnedly tracing the history of medical science from the earliest days down to Galen of Pergamos, "who flourished under the Empire and introduced the theory of the Humoral pathology; *i. e.*, that the sciences of physiology and pathology in general were founded on the knowledge of the four juices, the *chymoi* of the Greeks and the *humores* of the Latins, which regarded all disease as an alteration in the blending of these humors in the human body." Hippocrates and Galen were recognized by the Church, and their teachings were accepted as dogmatic.

"I wish to point out," he continued, "how the system of medicine has freed itself from the trammels of dogma and has turned to Nature as its source of knowledge. This freedom has been won by a long struggle, fought out chiefly on the soil of Italy, although other nations have their share in the victory. The prizes in the struggle have fallen to anatomy. In ancient times there was no opportunity, except under the Ptolemies, for study in this branch. Galen himself could only pursue it by the examination of those animals whose structure he thought approached most nearly to the human—viz., the pig and the ape.

"Some slight knowledge had been gained through sacrificial worship, which sometimes required the examination of the viscera of animals. But anatomy and pathology remained uncertain so long as there was no dissection of the human body, and this was prohibited by the Church.

"But when doubt of the infallibility of Galen arose, the Church withdrew her prohibition, and Mondini was permitted to demonstrate to the students in Bologna on a human body. Students from northern lands flocked to Italy, among whom the learned Andrea Vesalius, of Belgium, became a professor at Padua and placed anatomical science on a sound basis.

"But deliverance was at hand. In the beginning of the seventeenth century, William Harvey gave to the world the theory of the circulation of the blood. He also went to Padua and studied the heart and blood vessels, but did not succeed in discovering how the blood passed from the arteries into the veins. This was left for an Italian, Malpighi, of Bologna, who, by means of the lately-invented microscope, discovered the capillary system.

"Boerhaave is the only name of note until we come to that of Morgagni. In 1698, when scarcely sixteen, Morgagni went to the University of Bologna, where he found an anatomical atmosphere. His first important work was published in 1706, and from that time his reputation rapidly increased. The first book of his greatest work, *De Sedibus et Causis Morborum*, was not published until 1761, when he was almost eighty years old. In 1771, when he closed his eyes in death, he left to the world the five books completed. They contain the sum of all practical knowledge concerning disease. Through his teaching clinical science first attained to its true rank, and his teaching is now being worked out in its logical consequences in London, Paris, Vienna and Berlin. Therefore, we may say that by and through Morgagni the dogmatism of the old school was completely overthrown and with him the new era of medicine began.

"Though Morgagni was more anatomical than clinic, yet his great influence on clinical teaching may be traced in the successes of Bayle, Bichat, Laennec and Dupuytren, of the Paris school.

"Pharmacology and surgery have advanced so far that if Morgagni were to stand among us now he would be astonished; but he would perceive that medical science to-day has little similarity with that of Galen, and he would pardon us if we persuaded him that it is his own idea which we have perfected—viz., his theory of the *sedes morborum*, or, as I have pointed out, the anatomical idea. To him be the honor."

Professor Virchow's conclusion was the signal for an outburst of warm applause.

CHARLES G. CANNADAY, M. D.,
Of Roanoke, Va.

Proceedings of Societies, Boards, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

The First Semi-Annual Meeting of the Tenth Annual Session of the Medical Examining Board of Virginia was held in the Hall of the House of Delegates, Capitol Building, Richmond, Va., April 17th, 18th and 19th, 1894.

The Board was called to order at 8:30 P. M. Tuesday, April 17th, by the President, Dr. Rawley W. Martin, Chatham, Va. The Secretary, Dr. Benj. Harrison, Richmond, Va., was in place.

The following members were present during the session; Drs. Blackford, Broadus, Brown, Budd, Chancellor, Clarke, Conway, Dillard, Douglass (Homœp.), Green, Harrison, Hicks, R. S. Martin, Rawley W. Martin, Moore, Nash, Palmer, Patterson, Priddy, Taber (Homœp.)

The President announced that since the meeting of the Board in Charlottesville last October, one of the members then present had died. Whereupon a motion was made that a committee of three be appointed to draft suitable memoir of Dr. Parrish for record in the minutes of this session. Drs. Herbert M. Nash, of Norfolk, J. Edgar Chancellor, of Charlottesville, and R. S. Martin, of Stuart, were appointed.

The Secretary and Treasurer, Dr. Benjamin Harrison, in his Annual Report, presented the recently enacted revised law regulating the practice of medicine and surgery in Virginia, which is to go into effect November 1st, 1894.

The remainder of the evening was spent in routine work, disposing of correspondence, etc., and discussing the questions for the examination of candidates for license to practice medicine and surgery in Virginia, to begin to-morrow at 9 A. M.

The time of examination by each of the sections was extended from two hours (as last year) to three hours.

The following *Examination Questions*, after full consideration of each, were then adopted by the Board:

Examinations held April 18th and 19th, 1894.

I.—SECTION ON CHEMISTRY.

(Wednesday, 9 A. M. to 12 M.)

Members:—Drs. P. B. Green,* of Wytheville, *Chairman*; A. C. Palmer,* of Norfolk; Benj. Harrison,* of Richmond city; T. O. Jones, of Harrisonburg.

*The * after names indicates the Examiners in attendance.

Ques. 1. Define the terms atomic weight, molecular weight, combustion and isomorphism.

Ques. 2. Give history of chlorine; its principal uses and chemical properties.

Ques. 3. Mention two organic and two inorganic bases; give chemical formulæ of the two latter and state the chief chemical and physical properties which, as bases, distinguish them from acids.

Ques. 4. Define the following and give an example of each: (a) an alcohol; (b) a simple ether; (c) a carbohydrate; (d) a hydrocarbon.

Ques. 5. Describe magnesium sulphate; state how it is prepared; give its properties, and the tests by which magnesium salts may be known.

Ques. 6. Give the source of potassium, its physical and chemical properties, and name the principal salts of this metal which are used in medicine.

II.—SECTION ON ANATOMY.

(12 M. to 3 P. M.)

Members:—Drs. C. M. Blackford,* Lynchburg, *Chairman*;
R. D. Hufford, Kelly, Tazewell county; Joseph T.
Southall, Jetersville; J. B. Moore,* Ayletts.

Ques. 1. Describe (a) the coracoid process; (b) the upper extremity of the ulna.

Ques. 2. Give origin and insertion of the biceps, the sterno-cleido mastoid, and the rectus femoris muscles, with the arterial and nerve supply of same.

Ques. 3. Describe the fourth ventricle of the brain.

Ques. 4. Describe the male urethra.

Ques. 5. Give relations of the cæcum.

Ques. 6. Give superficial origin, foramen of exit, and distribution of the twelfth pair of nerves.

III.—SECTION ON (I.) MEDICAL JURISPRUDENCE AND (II.) HYGIENE.

(4 P. M. to 7 P. M.)

Members:—Drs. O. B. Finney, Onancock, *Chairman*;
J. Edgar Chancellor,* Charlottesville; J. W. Tankard,
Burgess Store; T. W. Simmons, Martinsville.

I.—MEDICAL JURISPRUDENCE.

Ques. 1. Give the legal importance and evidence necessary to establish the identity of the living and the dead.

Ques. 2. Define a wound legally ; classify and give principal characteristics of wounds inflicted on the living and dead body.

II.—HYGIENE.

Ques. 1. State the various methods of cooking, and that most conducive to health, and state the reasons why.

Ques. 2. Name the principal occupations prejudicial to health, and state what diseases they produce.

Ques. 3. Give general divisions of baths, the temperature of each, and their hygienic uses.

Ques. 4. Name the diseases that may be transmitted by the excreta, as alvine discharges, sputa, etc., and state how to prevent them.

IV.—SECTION ON PHYSIOLOGY.

(8 P. M. to 11 P. M.)

*Members :—*Drs. Robert Glasgow, Lexington, *Chairman* ; R. F. Young, St. Clair's Bottom ; R. S. Martin,* Stuart ; W. L. Broadus,* Bowling Green.

Ques. 1. Define the term "*Food.*" Give general classification of same and mention the principal *inorganic ingredients* of food.

Ques. 2. Give composition of human milk, and state what acid is formed when it becomes "sour."

Ques. 3. Describe the capillary blood vessels and give the physical conditions which influence the movement of the blood through the same.

Ques. 4. Give origin and distribution of the tenth pair of cranial nerves, and the physiological function in connection with the formation of the voice.

Ques. 5. Give location, roots and distribution of the ophthalmic ganglia.

Ques. 6. Describe the *tongue*, and mention the conditions necessary to the performance of the gustatory function.

V.—SECTION ON MATERIA MEDICA AND THERAPEUTICS.

(Thursday, 9 A. M. to 12 M.)

Members:—Drs. C. C. Conway,* Rapidan, *Chairman*; A. Trent Clarke,* South Boston; S. W. Budd,* Petersburg; M. A. Douglass* (Homœop.), Danville; C. B. Young (Homœop.), Lynchburg.

Ques. 1. Name the methods by which medicines may be introduced into the system, and the conditions when each is to be preferred.

Ques. 2. What are anæsthetics? State the contraindications for their use; treatment of dangerous symptoms; modes of death.

Ques. 3. To what class of remedies do the following belong? naming the most efficient preparations, with dose of each: Arsenic, iodine, zinc, hyoscyamus, chloral, aspidium filix mas.

Ques. 4. What are oxytocics? Mention three, with mode of action and dose.

Ques. 5. Name the principal digestive agents. Explain their physiological action, and give doses.

Ques. 6. Explain the action of saline cathartics; name the principal ones in use, with dose of each.

Ques. 7. What medicines are employed as gastric sedatives? Explain their mode of action.

Ques. 8. Write a prescription containing at least four ingredients, stating for what conditions it might be used. (Do not abbreviate.)

VI.—SECTION ON OBSTETRICS AND GYNÆCOLOGY.

(12 M. to 3 P. M.)

Members:—Drs. Herbert M. Nash,* Norfolk, *Chairman*; B. L. Winston, Hanover C. H.; G. D. Meriwether, Buena Vista; H. M. Patterson, Staunton, and George A. Taber* (Homœop.), Richmond.

Ques. 1. Differential diagnosis of pregnancy.

Ques. 2. Normal and abnormal presentations of fœtus, and methods of correcting the abnormal.

Ques. 3. Diagnosis and treatment of concealed and accidental hæmorrhage.

Ques. 4. Principal causes of sudden death of mother during and following labor.

Ques. 5. Most approved methods of treatment of infants born asphyxiated.

Ques. 6. Describe (a) Sims' position, and (b) the knee-chest position—giving the objects in view in each case.

VII.—SECTION ON PRACTICE OF MEDICINE.

(4 P. M. to 7 P. M.)

Members:—Drs. R. W. Martin,* Chatham, *Chairman*; Bedford Brown,* Alexandria; R. I. Hicks,* Warrenton; T. J. Taylor, Walthall's Store; W. P. Jones (Homœop.), Petersburg.

Ques. 1. Differential diagnosis between croupous and catarrhal pneumonia.

Ques. 2. Treatment of capillary bronchitis in infants and children.

Ques. 3. Differential diagnosis between varicella and variola.

Ques. 4. Physical diagnosis of acute pleuritis in the first or dry stage, and in the effusive stage.

Ques. 5. Causes of infantile convulsions.

Ques. 6. Causes and treatment of acute nephritis.

VIII.—SECTION ON SURGERY.

(8 P. M. to 11 P. M.)

Members:—Drs. J. W. Dillard,* Lynchburg, *Chairman*; A. S. Priddy,* Keysville; Leigh Buckner, Roanoke; W. P. McGuire, Winchester, Va.

Ques. 1. Symptoms of stricture of the urethra, with methods of treatment.

Ques. 2. Causes, symptoms and treatment of intestinal obstruction.

Ques. 3. Definition, pathology, symptoms, diagnosis and treatment of aneurism.

Ques. 4. Varieties of luxations of the shoulder joint.

Ques. 5. Signs of fracture of the surgical neck of the femur.

Ques. 6. What is retropharyngeal abscess, and how should it be treated?

ALPHABETICALLY ARRANGED LIST OF THE APPLICANTS FOR EXAMINATION TO
WHOM LICENSES WERE GRANTED TO PRACTICE MEDICINE IN VIRGINIA.
AFTER DUE EXAMINATION APRIL 18TH AND 19TH, 1894, WITH THEIR
POSTOFFICES, COLLEGES AND YEARS OF GRADUATION.

- Bailey J. B., Skin Quarter, Chesterfield Co., Med. Col. Va., 1894.
 Batkins, L. D., Richmond, Va., Med. Col. Va., 1894.
 Billisoly, Portsmouth, Va., University of Md., 1893.
 Bishop, J. J., Clear Fork, Bland Co., Tenn. Med. Col., 1892.
 Boldridge, J. B., Clarkson, Culpeper Co., Col. P. and S., Balto, 1893.
 Booth, J. E., Mannboro. Amelia Co., Med. Col. Va., 1894.
 Branford, J. H., Clear Brook, Frederick Co., So. Hom. Col. Balto., 1894.
 Brock, C. B., Richmond, Va., Med. Col. Va., 1894.
 Brock, L. C., Long View, Isle of Wight Co., Med. Col. Va., 1894.
 Burke, J. M., Petersburg, Non-Graduate.
 Campbell, E. H., Red Sulphur Springs, W. Va., Col. P. & S., Balto., 1894.
 Collins, G. T., Oak Park, Madison Co., Med. Col. Va., 1894.
 Clements, W. R., Richmond, Med. Col. Va., 1894.
 Cunningham, R. H., Richmond, Med. Col. Va., 1887.
 Davis, F. F., West Point, Va., Med. Col. Va., 1894.
 Dew, T. W., Richmond, Va., Med. Col. Va., 1893.
 Drewry, H. R., Richmond, Va., Non-Graduate.
 Early, J. E., Borneo, Green Co., Univ. of Va., 1893.
 Fuller, L. E., Callands, Va., Univ. of Louisville, 1894.
 Gwaltney, W. H., Wall's Bridge, Surry Co., Med. Col. Va., 1894.
 Hancock, W. E., Mt. Meridian, Augusta Co., Louisville Med. Col., 1894.
 Henning, R. E., Cheriton, Va., Univ. Georgetown, 1885.
 Henning, T. S., Jefferson, Powhatan Co., Med. Col. Va., 1894.
 Hardin, H. A., Preston, Va., Non-Graduate.
 Jones, R. R., Brunswick Co., Va., Med. Col. Va., 1891.
 Jackson, N., Fentress, Va., Hahneman Med. Col., Phila., 1894.
 Long, J. W., Richmond, Univ. of Nashville, 1883.
 Marcy, A. L., Richmond, Hahneman Med. Col., Phila., 1873.
 Mann, E. M., Petersburg, Va., Univ. of Va., 1889.
 Mann, Jno., Petersburg, Va., Med. Col. Va., 1894.
 Miller, C. M., Richmond, Va., Med. Col. Va., 1892.
 Meade, R. C., Blue Grass, Va., Col. P. and S., Balto., 1892.
 Marrow, Hunter, Union Level, Va., Louisville Med. Col., 1889.
 Nuckolls, C. B., Gambetta, Va., Univ. Col. of Med., Richmond, 1894.
 Ould, W. L., Bedford Springs, Va., Univ. of Louisville, 1894.
 Oglesby, S. C., Lucretia, Va., Univ. of Md., 1892.
 Pannell, M. W., Lynchburg, Va., Leonard Med. Col., N. C., 1894.
 Pollard, J. A., Wades, Bedford Co. Va., Univ. of Louisville, 1894.
 Patton, W. R., Lindsay, Va., Med. Col. Va., 1894.
 Parkens, Thos. M., Augusta Co., Col. Phys. and Surg., Balto., 1894.
 Reams, B. L., Richmond, Va., Med. Col. Va., 1894.
 Robbins, Chas. R., Richmond, Va., Med. Col. Va., 1894.
 Sayers, W. S., Wytheville, Va., Univ. of Va., 1893.
 Sellers, J. S., Mt. Meridian, Augusta Co., Univ. of Md., 1893.
 Scott, G. W., Madison Run, Orange Co., Va., Med. Col. Va., 1894.
 Smyth, H. S., Emory, Washington Co., Va., Med. Col. Va., 1894.
 Teusler, R. B., Richmond, Va., Med. Col. Va., 1894.
 Tompkins, G. T., Natural Bridge, Va., Med. Col. Va., 1894.
 Treake, H. B., Treacle's, Lancaster Co., Balto. Univ., 1893.
 Turcron, W. A., Kempville, Va., Bellevue Hosp. Med. Col., 1894.
 Weaver D. F., Gordonsville, Va., Med. Col. Va., 1894.
 Warner, S. C., White Gate, Giles Co., Univ. Col. of Med., Richmond, 1894.

INSTITUTIONS REPRESENTED BY THE APPLICANTS

BEFORE THE

MEDICAL EXAMINING BOARD OF VIRGINIA,

FROM THE ORGANIZATION OF THE BOARD,

Jan'y 1st, 1885, to May 1st, 1894.

	Total Number from each Institution	Total Number Licensed First Exam	Total Number Rejected First Exam.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Incomplete or Withdrew.
Medical College of Virginia	138	113	19	1	1	1	...	6
University of Virginia—Medical Department.....	79	78	1	...	...	...	...	...
University College of Medicine, Richmond.....	2	2	...	...	...	...	...	...
Balto. Med. Col. and Univ. Col. of Med., Richmond...	1	1	...	...	...	...	...	...
College of Physicians and Surgeons, Baltimore.....	102	78	21	...	1	...	...	3
University of Maryland.....	110	81	28	...	...	1	...	1
Baltimore Medical College.....	23	7	14	2	4	...	2	2
Baltimore University.....	7	7	...	1	2	...	...	...
Washington University, Baltimore, (Extinct.).....	1	...	...	...	...	...	...	1
National Medical College, Washington, D. C.....	1	1	...	...	...	...	...	...
University of Georgetown, D. C., Medical Department	2	1	1	...	...	...	...	...
Howard Univ., Med Dept., Washington, D. C.....	20	5	15	...	4	1	...	...
University of Maryland and Baltimore Medical Coll.	1	1	...	...	...	...	...	...
Georgetown College, Washington, D. C.....	1	1	...	...	...	...	...	...
Jefferson Medical College.....	31	22	8	2	...	...	...	...
Jefferson Medical College and University of Virginia.	1	1	...	...	...	...	...	...
University of Pennsylvania—Medical Department...	8	8	...	...	...	...	...	...
Medico-Chirurgical College of Philadelphia.....	1	1	...	1	1	...	...	...
Medical College of Philadelphia.....	1	1	...	...	...	...	...	...
Woman's Medical College of Pennsylvania.....	1	1	...	...	...	...	...	...
Hahnemann Med. Coll and Hosp. (Homœop.) Phila...	4	3	1	1	...	...	...	...
University of the City of New York—Medical Dept...	25	17	8	...	1	...	...	...
University of New York.....	1	1	...	...	...	...	...	...
University of Virginia and New York.....	1	1	...	...	...	...	...	...
Bellevue Hospital Medical College, New York.....	16	15	1	1	...	...	...	...
University of Va. and Bellevue Hospital Medical Coll.	1	1	...	...	...	...	...	...
College of Physicians and Surgeons, New York.....	9	8	1	...	...	...	...	...
Geneva Medical College, New York (extinct).....	1	1	...	...	...	...	...	...
Coll. Phys and Surg., New York, and Univ. of Va...	1	1	...	...	...	...	...	...
Long Island College Hospital, Brooklyn.....	1	1	...	...	...	...	...	...
Yale Medical School, New Haven.....	1	1	...	...	...	...	...	...
University of Vermont, Burlington.....	2	1	1	...	...	...	...	...
Miami Medical College, Cincinnati.....	2	2	...	...	...	...	...	...
Columbus Medical College.....	3	2	1	1	...	...	...	...
Homœopathic Hospital College, Cleveland.....	2	2	...	...	...	...	...	...
Pulte Medical College, Cincinnati (Homœopathic)...	1	1	...	...	...	...	...	...
Louisville Medical College.....	13	6	7	1	...	...	...	...
University of Louisville—Medical Department.....	12	9	3	...	...	...	...	...
Kentucky School of Medicine, Louisville.....	5	4	1	...	...	...	...	...
Hospital Medical College, Louisville.....	7	4	3	...	...	...	...	...
Vanderbilt University, Nashville.....	5	4	1	1	...	...	...	...
University of Tennessee, Nashville.....	2	2	...	...	...	...	...	...
University of the South, Sewanee, Tenn.....	1	1	...	...	...	...	...	...
Leonard Medical College, Raleigh (Colored).....	13	10	3	...	...	...	...	...
Medical College of State of South Carolina, Charleston	2	1	1	1	...	...	...	...
Southern Medical College, Atlanta.....	3	1	2	...	...	...	...	...
Atlanta Medical College.....	1	1	...	...	...	...	...	...
Tulane University—Medical Dept—New Orleans.....	2	2	...	...	...	...	...	...
University of Louisiana (probably Tulane University)	1	1	...	...	...	...	...	...
Medical College of St. Louis (Extinct)	1	1	...	...	...	...	...	...
St. Louis Medical College, Missouri.....	1	1	...	...	...	...	...	...
Detroit Medical College, Michigan.....	2	1	1	1	...	...	...	...
University of Michigan—Medical Dept., Ann Arbor	4	4	...	...	...	...	...	...
Michigan College of Medicine and Surgery, Detroit...	2	1	1	...	...	...	...	...
Chicago Homœopathic Medical College.....	1	1	...	...	...	...	...	...
Hannemann Medical College and Hospital, Chicago...	1	1	...	...	...	...	...	...
University of Heidelberg, Germany.....	1	1	...	...	...	...	...	...
St. George's Hospital, London.....	2	1	1	...	...	...	...	...
King College, London.....	1	1	1	...	...	...	...	...
Tennessee Medical College, Knoxville.....	1	1	1	1	1	...	...	...
Chattanooga Medical College.....	1	1	1	1	...	...	...	...
Western Reserve Medical College, Cleveland.....	1	1	...	...	...	...	...	...
Rush Medical College, Chicago.....	2	2	...	...	...	...	...	...
National University of Ohio.....	1	1	...	...	...	...	...	...
Eclectic School, Cincinnati.....	1	1	1	...	...	...	...	...
Cincinnati Medical College.....	1	1	1	...	...	...	...	...
Southern Homœopathic Medical College, Baltimore...	1	1	1	...	...	...	...	...
Colleges unknown.....	7	4	1	...	...	...	2	...
Non-Graduates.....	61	20	35	2	1	...	6	...
Totals.....	762	528	202	15	16	5	22	...

Nos. of examination papers.	LIST OF INSTITUTES Whose Graduates were Rejected by the Med. Exam. Board of Va., at its Regular Spring Meeting, April, 1894, With Percentage Marks received in each Section.										Average percentage	Remarks.
	COLLEGE OF GRADUATION.											
	Chemistry.	Anatomy.	Physiology.	Hygiene and Med. Jurisprudence.	Material Medica and Therapeutics.	Obstetrics.	Practice.	Surgery.	Total.			
2	Non-Graduate.....	33 $\frac{1}{3}$	50	70	80	58	67	75	78	511	64	
9	Tenn. Med. Col., Knoxville...	10	60	88	78	57	52	73	88	506	63 $\frac{1}{4}$	
10	Louisville Medical College.....	70	60	70	70	75	68	85	78	576	72	
14	Kentucky School of Med. ...	40	75	75	65	75	70	75	80	555	69	
20	Medical College of Virginia...	68	90	75	71	74	75	80	80	583	72 $\frac{3}{4}$	
21	Baltimore Medical College.....	54	46	70	50	63	52	75	70	480	60	
22	Baltimore Medical College.....	45	75	70	71	76	74	76	82	572	71 $\frac{1}{2}$	
34	Balto. Univ. School of Med. ...	10	25	50	35	60	60	60	85	355	48	
40	Non-Graduate.....	50	75	75	50	82	90	86	90	598	74	
46	Balto. Univ. School of Med. ...	54	34	65	76	80	57	73	90	528	66	
50	Non-Graduate.....	75	60	70	75	80	64	75	75	574	71 $\frac{3}{4}$	
54	Leonard Medical College.....	40	40	84	75	70	84	60	84	537	67	
56	Non-Graduate.....	50	88	75	75	68	75	75	81	587	73	
57	Non-Graduate.....	10	10	30	70	20	30	75	85	330	41	
59	Non-Graduate.....	35	40	60	60	75	79	85	90	524	65 $\frac{1}{2}$	
64	Non-Graduate.....	60	40	55	65	80	68	65	90	523	65	
65	Chattanooga Med. Col., Tenn.	75	40	78	73	70	70	80	85	571	71	
69	Medical College of Virginia...	35	80	76	75	80	75	75	90	586	73	
70	Balt. Med. Col & Univ. Col. of Med., Richmond.....	40	75	78	80	75	75	85	85	593	74	
72	College Phys. and Surg., Balt.	40	29	65	86	68	71	65	65	469	58 $\frac{1}{2}$	

INSTITUTIONS REPRESENTED BY THE APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, IN SESSION AT RICHMOND, VA., April 18th and 19th, 1894.				Total Number Applicants from each College.	Total number Applicants rejected from each College.	Total Number Applicants Rejected from each College.	Withdrawals.
Medical College of Virginia.....	25	23	2				
University of Virginia, Charlottesville.....	3	3					
University College of Medicine, Richmond.....	2	2					
University of Maryland, Baltimore.....	3	3					
Baltimore University School of Medicine.....	3	1	2				
College Physicians and Surgeons, Baltimore.....	5	4	1				
Baltimore Medical College.....	2		2				
Baltimore Med. Col. and Univ. Col. Med., Richmond.....	1		1				
University of Louisville.....	3	3					
Louisville Medical College.....	3	2	1				
Kentucky School of Medicine, Louisville.....	1		1				
Bellevue Hospital Medical College, New York.....	1	1					
University of Georgetown, Washington, D. C.....	1	1					
Tennessee Medical College, Knoxville.....	2	1	1				
University of Nashville and Vanderbilt University.....	1	1					
Chattanooga Medical College.....	1		1				
Southern Homeopathic College, Baltimore.....	1	1					
Hahnemann Medical College and Hospital, Philadelphia.....	2	2					
Leonard Medical College, Raleigh, N. C. (colored).....	2	1	1				
Non-Graduates.....	10	3	7				
Totals.....	72	52	20				

THE MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

March 12th, 1894, Dr. John W. Shaw read a paper (see page 125) on

Poisoning by Illuminating Gas.

In discussion, Dr. Vincent said he had seen cases of poisoning by illuminating gas, but they had not reached the degree of profoundness which had been observed in the cases reported by Dr. Shaw. One case he remembered, that of a colored man overcome by gas while in a drunken stupor, had been under the poisonous influence for about fifteen minutes. He failed to detect the odor of gas on the breath; the pulse was slow; there was no cyanosis. He employed artificial respiration and gave whiskey. The man recovered in forty-eight hours. The blood was not examined.

Dr. Bovée said he had seen five or six cases of poisoning by illuminating gas; they had been under the toxic influence for periods varying from ten to twenty-four hours. Had used stimulants and nitro-glycerine. In cases of full habit he would employ venesection.

Dr. Bishop said he agrees with Dr. Shaw. All cases of asphyxia are alike; that is to say, there is stoppage of respiration and paralysis of the heart centres. He referred to the experiments of Claude Bernard in asphyxia, when he had suspended pigeons by the feet. He remembers one case of submersion which he saw in North Carolina; the boy had been under the water for half an hour, and when rescued the sailors hung him up by the feet in the rigging. He recovered. He considers the employment of oxygen in these cases as simply a waste of time.

Dr. E. L. Morgan said that illuminating gas is derived principally from coal; it varies in its composition. He spoke of the chemical composition and of the impurities found. CO is the poisonous property of illuminating gas; it exists in gas mains at about 4 to $7\frac{1}{2}$ per cent.; in water gas it amounts to about 30 to 35 per cent. Carbon monoxide with the blood forms a more stable compound than oryhemoglobin, thus destroying the power of the red blood corpuscles to carry oxygen; therefore, oxygen is of little use in poisoning by illuminating gas. Continuing, he spoke of the symptoms and post-mortem changes found in these cases. He related a case which occurred in his practice

where he had employed brandy hypodermically, using at the same time artificial respiration; although the man improved under treatment while in hospital, he finally died of pneumonia. He thought it remarkable the odor of the gas could be noticed in the breath of Dr. Shaw's patient for so long a time. Thinks the proper treatment of such cases is blood letting, in conjunction with transfusion of blood. he would also use artificial respiration, stimulants and iron;

Dr. Bovée said there was a difference in illuminating gas, and defined the causes of the differences. In addition to bleeding, he would use transfusion of blood and administer iron, but would not use oxygen.

Dr. Beatty said he remembered a case he had seen with Dr. Walsh, and although he improved under treatment, he died in a few hours of heart failure.

Dr. Vincent said he had never seen any reference to the bad after-effects.

Dr. Sohon said it was a hard matter to settle how much gas would be inhaled, since it is not always possible to determine the length of time of such inhalation. He had seen many cases in hospital practice, all of which recovered; still, one which he had seen recently in private practice died. In one of these cases he had bled to the extent of one and a half pints; in the other cases he had used nitroglycerine and strychnia.

Dr. Bovée said he thought an estimate of the amount inhaled could be formed by examining the size of the burner.

Dr. Mayfield said he could not see the indication for bleeding, as there was no increase of blood pressure to be relieved, nor were there any over-filled vessels; that venesection removed not only the impaired corpuscles, but it also removed the unimpaired corpuscles. The gas is in the blood and in the tissues, and its odor may be accounted for in a manner similar to the odor detected in old gas pipes.

Dr. E. L. Morgan said the odor of gas is in the blood.

Dr. Sohon said he did not bleed to get the gas out of the blood, but to relieve blood-pressure.

Dr. Bishop said he thought the indication for bleeding was the blood stasis, and not to eliminate the poison thereby.

Dr. Shaw, in closing, said if bleeding is employed, transfusion should follow. There is no way of determining the quantity of gas inhaled. He could not account for the odor of gas in the breath, which, in one case, could be detected for five days.

Dr. Llewellyn Eliot read a paper—

The Treatment of Hæmorrhoids by Injection. [See page 129.]

In the discussion, Dr. Moran said he had little to say; he has used the ligature almost entirely. Has seen cocaine cause spasm of the sphincter, thereby making matters worse.

Dr. Bishop said we should be sure of our diagnosis, as there is liability to error. He remembered a case, diagnosed as hæmorrhoids, which turned out to be impacted fæces. In the use of the ligature, patients exhibited no fear as they would when the knife was used. He is an advocate of the electrical treatment, employing the positive current. The piles, under its use, shrink. A platinum needle, with 4 or 5 mm., will be sufficient.

Dr. Carraher said he had used injections with good results. People do not fear this operation. Saw one case where in four hours after the injection, the patient, a lady, came to his office, free from pain. The piles shrink.

Brinkerhoff a number of years ago shipped his solution to a number of physicians. Electricity may be of great service if intelligently employed.

Dr. J. D. Morgan said he had only used the ligature. Reports of Shrader's solution, consisting of glycerine, water and carbolic acid, have always been favorable. In operating, he transfixes the pile with a double thread and ties on either side.

Dr. Eliot, in closing, said he had never seen a case of poisoning from injection of carbolic acid. He does not share the general fear of poisoning by carbolic acid. Many claim that the pile shrinks. He had always found the piles first swell and then contract; they become white, and usually slough about the fourth day. He had never seen hæmorrhage follow injection. He injects all the piles at one sitting. A fistula may be caused by the careless use of the injection. Has used this treatment for some years. He began with a 5 per cent. solution of carbolic acid, but now uses one of the formulas mentioned in the paper.

Editorial.

American Medical Association.

Dr. R. H. Plummer, Chairman Committee of Arrangements, etc., of San Francisco, Cal., has sent us an interesting circular about route, from which we make extracts.

The American Medical Association will meet in San Francisco June 5th, 1894. The Transcontinental railroads have made favorable rates—namely, \$65.50 for round trip from all Missouri river points, which is one and one-twelfth fare.

The Southern Pacific Company's rates from Portland, Ogden and El Paso are one fare.

All tickets sold at these points carry five coupons of admittance to the Mid-Winter Fair.

The roads beyond Missouri river points are still charging about one and a half fares.

Cannot our brethren east of the Rocky Mountains yet induce the Central Traffic Association and Trunk Lines to equalize these rates? Several agents, in response to our circulars asking for a single fare, replied favorably, but stated it required united action of the several Associations. An extensive itinerary for those who come from the Northern and Middle States, is published in the *Journal of the Association*. In the April number of the *Occidental Medical Times*, Dr. Parkinson has published an extensive itinerary of excursions and entertainments in this State for members and their families during and after the meeting. Those who come from the Southern States will probably come over the Santa Fe and Sunset routes. It will be well for them to come early and "do" the southern part of the State on the way up, and then depart via the Ogden or Shasta route. This will afford the greatest possible opportunity to note the varied resources of the Pacific Coast and the variety of scenery and climates within our borders. The Colorado Desert, through which the road passes, is 312 feet below the sea-level, with a dry, hot atmosphere.

Going out over the Denver and Rio Grande, one reaches an altitude of 10,500 feet, while on the Shasta route the road passes Castle Crag Tavern, winding around the base of Mount Shasta, whose summit is 14,444 feet high, and clad in eternal snows.

Colton and Riverside, the first important points reached on the Sunset route, are already far-famed for their delicious

fruits and extensive orange groves, which line the streets and highways for many miles.

Drs. M. F. Price and K. D. Shugart, of the Local Committee on Reception, will take delight in showing them to visitors.

From here to San Diego and Coronado it is only four hours' ride. They are located upon the bay, in the extreme southwestern part of the State, only four miles from the Mexican border. This is now a fashionable all-the-year-round resort, with one of the largest and best-equipped hotels in the world—its main dining-room having a capacity for a thousand guests.

Facilities for bathing and boating in the sheltered waters of the bay are unexcelled.

Drs. C. M. Fenn, W. A. Edwards, and C. C. Valle, of the Local Committee, will extend every courtesy to visiting members.

Los Angeles, the chief city in the South, too well known to need any description here, is only five hours' distant on the way North.

Here Drs. H. Bert Ellis, H. S. Orme, Walter Lindley, Jos. Kurtz, J. P. Widney, and W. L. Wells, of the Committee on Reception, will be delighted to show visitors the city and its suburbs, Pasadena, Santa Monica, and other points of interest.

Santa Barbara, another charming resort by the sea, famous for its adjacent olive groves, in which it rivals Palestine, is only three hours' ride from Los Angeles.

Here Drs. S. B. P. Knox, J. M. McNulty, and R. J. Hall, of the Local Committee, will do the honors of the occasion.

Leaving Santa Barbara by rail, the next point of interest will be Bakersfield, where an extensive system of irrigation has transformed a desert into a veritable garden of Eden.

Then comes Fresno, the largest and most successful vineyard district in the State, where Drs. Chester, Rowell, and A. J. Pedlar, of the Local Committee, will pay every attention to visitors.

It is only seven hours' ride from here to San Francisco, where the members of the Reception Committee will meet the visitors and escort them to their respective hotels. Those who come in over the Northern route via Mount Shasta, Castle Crags Tavern, Soda Springs, Chico, and the State Capitol at Sacramento, may desire to depart by the Santa Fe or Sunset routes.

Examinations U. S. Army Medical Corps.

In view of the possibility of the reduction of the Medical Corps from one hundred and twenty-five to ninety Assistant Surgeons, by action of Congress at its present session, the examinations appointed for March and April, 1894, will, by order of the Secretary of War, not be held until further notice. It is probable that if the Corps should not be reduced the Examining Board will be convened in the fall of 1894. Of this, notice as early as possible will be given.

American Medical Publishers' Association.

The annual meeting of this Association will be held at White Sulphur Springs, West Va., Friday and Saturday, August 3d and 4th, 1894. The annual dinner will be given in the evening of the first day. A number of practical papers are being prepared, bearing upon subjects of interest to every one engaged in medical publishing. The above dates have been selected as a time when most business men can best spare a few days for a pleasure trip; and reduced rates having been secured at the hotels for members and their families, it is hoped that this meeting will be one of congeniality as well as of business interest. A special meeting has been called for June 4th, at San Francisco, in the Palace Hotel, at 1 P. M. sharp, for the transaction of special business. It is hoped that all publishers attending the A. M. A. will make it a point to be present at this meeting. The Secretary is Mr. Chas. Wood Fassett, Sixth and Charles street, St. Joseph, Mo., to whom applications for membership may be made.

Professors to be Elected in Medical College of Virginia.

The Board of Visitors of the Medical College of Virginia will meet in Richmond on May 16th, 1894, to elect some Professors—the chief of which is Professor of Practice of Medicine—Dr. M. L. James, who has been a member of the Faculty about fifteen years, having resigned. Before 1880, he was in the Summer Faculty, and its Chairman for about eight or ten years—thus making his connection with the College, as Lecturer and as Professor, cover a period of nearly twenty-five years. For some years he was also Dean of the Faculty.

This May Number

Is so filled up with "Original Contributions" on subjects of practical interest to practitioners that much other matter prepared for its usual different departments will have to be laid over until June.

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Original Communications.

ART. I.—Yellow Fever—Its Relations to Climate and to Hygienic Measures in the United States.*

By JULIUS C. Le HARDY, M. D., of Savannah, Ga.,

EX-PRESIDENT OF STATE MEDICAL ASSOCIATION OF GEORGIA; EX-PRESIDENT GEORGIA MEDICAL SOCIETY; MEDICAL DIRECTOR SANITARY ASSOCIATION, ETC.

There is perhaps no other disease that has inspired greater terror on this hemisphere than yellow fever, and none wherein the good effects of sanitation have been so sharply defined.

Less than one hundred years ago "King Yellow Jack" (name given to yellow fever at the South), ruled over his vast domains with despotic sway. The entire length of the Atlantic Coast, from Canada to South America, and the Islands between, paid tribute to the autocrat. His armies numbered by the hundreds of thousands, the victims of his greed by the tens of thousands, while to-day his retinue has

* Read before the World's Congress on Medico-Climatology, Chicago, June 1st, 1893.

been curtailed, as it were, to a mere corporal's guard, doing duty in a few *filthy* cities in Southern latitudes.

Although it may be surmised that the plague spoken of by Christopher Columbus, which killed two-thirds of his men while on the Island of Hispanola, in 1494, and the disease which created such a terrible havoc among the followers of Ovanda, in 1504; of Ojeda, in 1510; of Balbao, and of Cortes on the Isthmus of Darien, 1512, 1515, and which decimated the population of Mexico, 1545, 1575, was yellow fever, the fact remains that during the whole of the last and the first decade of this century, cities north of the 40th degree suffered a great deal more from the "dread disease" than those on the South Atlantic and Gulf Coast (except Charleston), which were then singularly free from it.

The mortality from yellow fever between 1781 and 1810 was: In Boston, 550; New Haven, 64; New London, 81; Providence, 95; New York, 4,941; Philadelphia, 10,372; Baltimore, 2,157; Norfolk, 500; Charleston, 889. From this date, however, while its visitations North diminished or ceased altogether, the number of epidemics and of deaths increased enormously South, where, between 1851-1860, nearly 30,000 persons lost their lives. Fortunately, after this sad period, the fatality of yellow fever diminished gradually. In 1800-1805, among troops stationed in the West Indies, the mortality ranged from $29\frac{1}{2}$ to 60 per cent.; in 1876-1887, from 7 to $12\frac{1}{2}$ per cent. in the United States; and although the population was steadily increasing, and commercial relations between our ports, the West Indies, and South America, were growing larger year by year, epidemics came at longer intervals. Indeed, for the last ten years only a few hundreds have died of yellow fever in the United States, mostly in Florida.

It will be interesting to observe the number of times yellow fever has infected some of our well-known cities, to note the climate, the date of its last visitation, and the measures used for its prevention.

Boston was infected in 1693, 1798, 1802, 1805.

Providence was infected in 1797, 1802, 1805.

Portsmouth was infected in 1798.

New London was infected in 1798.

Staten Island was infected in 1798.

New Haven was infected in 1802, 1805.

New York was infected in 1702, 1745, 1791, 1795, 1796, 1798, 1799, 1800, 1801, 1803, 1804, 1805, 1806, 1807, 1809, 1819, 1820, 1821, 1822.

Philadelphia was infected in 1699, 1741, 1744, 1747, 1762, 1793, 1794, 1797, 1798, 1799, 1802, 1803, 1804, 1805, 1820, 1853.

Baltimore was infected in 1794, 1797, 1800, 1802, 1805, 1818.

Norfolk was infected in 1795, 1800, 1801, 1803, 1805, 1821, 1826, 1852, 1866.

Charleston was infected in 1699, 1713, 1728, 1732, 1739, 1745, 1748, 1762, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1817, 1819, 1824, 1827, 1828, 1834, 1835, 1838, 1839, 1843, 1849, 1852, 1854, 1855, 1856, 1857, 1858, 1862, 1864, 1871.

Savannah was infected in 1817, (?) 1820, 1854, 1858, 1876.

Pensacola was infected in 1817, 1822, 1825, 1827, 1828, 1834, 1839, 1841, 1842, 1843, 1845, 1846, 1847, 1856, 1867, 1873, 1874, 1875, 1878, 1884.

New Orleans was infected in 1817, 1819, 1820, 1822, 1829, 1832, 1833, 1837, 1839, 1841, 1847, 1848, 1849, 1852, 1853, 1854, 1858, 1863, 1864, 1867, 1870, 1873, 1874, 1878.

Galveston was infected in 1839, 1842, 1844, 1847, 1854, 1858, 1859, 1864, 1867, 1878, 1882.

Shortly after the yellow fever epidemic of 1793, the citizens of Boston created a Board of Health, and they started to clean the streets and to drain the low-lands, but their city had to be subjected once more to the trials and the losses of another epidemic (1802) before these sanitary measures were pushed in earnest. The city was now thoroughly cleaned; the offal, night-soil, etc., regularly removed, and the marshy lands—in and out of the limits—which had always been

sickly, were well-drained and transformed into beautiful gardens, remunerative truck farms—in orchards and nurseries. While these improvements were going on, there was a return of the fever in 1805, but the infected area was small, and the number stricken few. The dread disease never occurred again in this progressive city.

The sanitary work done in Boston improved the health of its inhabitants, and reduced sickness and mortality to such a degree that the authorities of cities in the neighboring States followed the example and carried out the same policy. Whether due to these sanitary measures or to some inappreciable change of climate, yellow fever paid its last visit to New England in 1805.

New York, however, did not fare so well. During the last century, she had a number of epidemics, and in 1792 yellow fever became almost endemic, recurring every year until 1809. After an interval of ten years it came back again, and in 1822 the disease did considerable damage in the lower part of the city.

A general apprehension of the return of a yellow fever epidemic brought the city authorities to giving the Board of Health power to carry out important sanitary measures, not only within the infected district (between Rector and Fulton streets), but wherever needed in the city—on the docks, the wharves, the river. This work evidently prevented a return of the disease, and since then the Health department has been unrelenting in its efforts to keep the sanitary improvements apace with the growth of the metropolis, and it has so well succeeded in its efforts that, in spite of the frequent introduction of persons with yellow fever, New York has had no epidemic.

Philadelphia suffered more and longer from yellow fever than any other Northern city. It was here also that the fiercest and most unrelenting contest between members of the medical profession raged about the origin of yellow fever. The fight of the "local origin" men against the "contagionists," or "importationists," lasted for a century, or longer, and is perhaps the reason why no preventive meas-

ure was ever fully carried out, and that the city of "Brotherly Love" remained a prey to the scourge until 1854.

At last, after the epidemic of 1853, a new system of sewers was established, deposits of filth in the river were removed, an abundant supply of water was procured, and other sanitary requirements were attended to; this sufficed to prevent a return of the fever.

Norfolk had always been and remained a sickly place until the low-lands surrounding it were drained and cultivated. The last of the many visitations of yellow fever occurred in 1855. At this time, truck-farming and the raising of strawberries becoming a source of revenue, these rich lands were all drained and cultivated.

Charleston has been infected by yellow fever more frequently than any other city on our coast. The first epidemic occurred in 1699; then a goodly number occurred in the next century. In 1792, it became endemic, returning every summer until 1807. After an interval of ten years, it came back, to recur frequently until its last visit in 1871.

Partly built upon made land, surrounded by marshes, Charleston was very sickly during the summer and fall. Moreover, it was badly drained, badly policed, and the drinking water was collected from the roof of houses in cisterns. About 1868, a new system of sewers was inaugurated, better water was obtained, the streets were paved, and the garbage-wagon replaced the buzzards as scavengers. While this work was in progress, in 1871 they were visited, for the last time, by yellow fever. The mortality by the disease was only 275.

The first well-recognized epidemic of yellow fever in New Orleans occurred in 1817. After this, the disease returned very frequently, the number of victims increasing with every decade. Between 1851 and 1860, 18,652 persons died of it.

During the Civil War, while under military rule, the city was kept strictly clean, under the direction of Dr. Elisha Harris, of New York, a renowned sanitarian. During this

period, and for some years after "the late unpleasantness," yellow fever kept away, but the subsequent neglect of hygienic measures soon brought it back. The mortuary records show that it prevailed there in 1867, 1870, 1871, 1872, 1873, 1874, 1875, and in 1878 New Orleans suffered from a terrible epidemic, the loss of lives being 4,500. It has been estimated that \$50,000,000 was the cost of that epidemic.

Aroused by this calamity, citizens organized a sanitary association, and raised \$100,000 by subscription. That money was used immediately to clean the city, to improve the existing method of removing filth, and to increase the water supply. By this timely help, New Orleans was saved from an epidemic in 1879, when it raged at Memphis and in the Mississippi Valley. Having remained free from the disease, in 1885 the State and city authorities exchanged the old system of "quarantine of long detention;" for modern "ship sanitation," thereby regaining the summer trade, which they had lost, by enforcing a quarantine of long detention, and to this day the Crescent city has not seen "the dread visitor" again.

The last epidemic of yellow fever struck Jacksonville in 1887. Here the mortality was proportionally very small (less than 8 per cent.), but the number of persons said to have had the disease very large. No important sanitary work was undertaken during or after this epidemic, but the Health authorities have been very active of late, and may save that popular resort from another visit.

More favored than her neighbors, Savannah, notwithstanding her geographical position between Charleston and New Orleans, has had but three general epidemics of yellow fever—1820, 1854, 1876. To her configuration, and to the early and prompt action of the Medical Society, relative to drainage, this exemption must be ascribed.

Selected by Gen. Oglesby on account of its situation and of its elevation, the site upon which the city is built is a plane on the south side of the river of the same name, about twelve miles in a direct line from the ocean. This

bluff rises forty-five feet above low-water mark, and is a bed of pure white sand, intersected here and there with a vein of clay. The water, found some twenty feet below the surface, *was then* clear, pure, and palatable. The plan of the city is certainly better adapted to a warm climate than any that I have ever seen. The streets are wide, intersecting each other at right angle, with open spaces (parks) at regular distances. The elevation above the surrounding country, and the wide streets, enable the citizens to enjoy a cooling sea-breeze every afternoon in summer.

Originally, this bluff was thickly covered with the tall yellow pine. On the north, across the river, and on its eastern and western flanks, it was surrounded by low, tidal lands. But these wet lands were covered with a most luxuriant growth of trees and vines.

So long as these impenetrable swamps remained undisturbed, Savannah was very healthy. "It was resorted to in summer by inhabitants of Charleston on account of its salubrity (Dr. Wimberly Jones, Corr. 1786). In the latter part of the century, lands east and west were cleared for the cultivation of rice. It was while this work was in progress that the historian refers, for the first time, to the "presence of inflammatory fevers of various sorts in the town" (C. C. Jones' History of Georgia).

"At the beginning of this century, it was very sickly here," says Dr. Wm. Waring in a pamphlet: "Yellow fever epidemic of 1820," "a fever called 'autumnal,' by some, 'continued,' by others, was very prevalent and fatal;" at the hospital, cases terminating with the black vomit were seen every season."

The condition of affairs became so serious that, in 1810, the Georgia Medical Society, in a body, appeared before the City Council, and urged upon them the necessity of draining all the lands east and west of the city which were then cultivated in rice; that is, under water or the "wet culture." A plan was proposed and accepted, but it was not carried out until 1817, when a fever, said to be yellow fever, raged

among the foreign laborers, increasing the mortality fearfully (one death for every $9\frac{1}{2}$ inhabitants). A "dry culture" ordinance was passed during the winter and enforced in the early spring of 1818. "The effect of this measure was immediate; it surpassed the best expectations of its supporters; the mortality dropping to 1 in $62\frac{3}{4}$ " (Wm. C. Daniell, M. D.).

Table of Mortality to Population Found in Report of Committee on Drainage, Georgia Medical Society, to City Council.

1815	1816	1817	1818	1819	1820	1821	1822	1823
1 in 15	1 in 18	1 in $9\frac{1}{2}$	1 in $62\frac{3}{4}$	1 in 18	1 in 10	1 in 37	1 in $33\frac{1}{4}$	1 in $52\frac{1}{2}$

But dry culture did not pay owners of rice lands, and in 1819 they failed to cultivate and to drain. To this cause must be attributed the great increase of mortality.

"The spring of 1820 was hot and rainy; stagnant water covered much of the low lands around the city; a great number of vaults, filled with fecal matter, were left exposed to the action of the sun, after the conflagration of a large portion of the town; all of which brought about a fearful epidemic of yellow fever, from which 600 persons died in a population of 3,000" (Dr. W. C. Daniell, *Autumnal Fevers*, 1825).

Speaking of the causes of this epidemic, Dr. Wm. Waring says: "The preceding winter had been very mild; we had an early spring; the monthly rain-fall, in March, April, May, was 9 inches; it increased in June and in July. In August, 13 inches fell during twelve days of rainy weather. The soil and air were saturated with moisture, and the heat was very oppressive."

Dr. Daniell mentions that in 1821 owners of low lands were required to drain and to cultivate their property; this accounts for the decrease in mortality.

The health of the inhabitants of Savannah has always been, and still is, greatly influenced by the condition of the lands lying east and west of the city. A neglect of the drainage thereof is sure to cause malarial fevers. When-

ever the area of undrained land is large, and much stagnant water is left to putrefy during the summer, the type of fevers is malignant, and occasionally sporadic yellow fever may break out here and there. This was the case in 1827, 1839, 1842, 1852, 1858, 1864, 1872. When, to these conditions, a heavy rain-fall occurs, with a long-continued high temperature (80° and above), epidemic yellow fever occurs; such were the years 1820, 1854, 1876.

Of the conditions existing here before and during the year 1854, Dr. R. D. Arnold, a leading physician at the time, says in his "Essay on Bilious and Yellow Fever" (1856): "The summer had been the hottest and the sickliest I had ever experienced in Savannah."

Dr. John F. Posey, the meteorologist for the government, in his records, shows a heavy rain-fall during the spring and summer months, and while the epidemic was raging—August, September, and October—an average humidity of 81.46; average dew point, 72.04; average temperature, August and September, $81^{\circ}.18$.¹ In addition to the large surface of undrained lands and of stagnant water, which existed that year all about the city, a great amount of digging had been done in the streets for the laying of water-mains and gas-pipes. To this disturbance of earth the malignity of the fever was attributed by a number of physicians—639 persons died of the disease in a population of 12,500.

The winter preceding the epidemic of 1876 was exceptionally mild, the spring setting in early with high temperature; the rain-fall sufficient to fill swamps, ponds, and low places. In June, 18 inches of water fell in thirteen days. The pressure of so much water was sufficient to break through the dams protecting hundreds of acres of lands on the western side of the city. Stagnant water, covered with a green scum, could be seen in every direction, and the heat in June, July and August was extremely oppressive, and, at times, stifling.

Malarial fevers occurred earlier in the spring than usual, the number of cases increased, and the type became more virulent as the season advanced. Early in June (6th), the

first case of monoparoxysmal fever, with black vomit, was reported by Dr. J. B. Read (a yellow fever expert). Other cases occurred in July, but yellow fever was only declared an epidemic August 21st. The disease spread in all directions, invading every corner of the city. Negroes who had been particularly exempt from its attacks while slaves suffered equally with the whites. But few of the inhabitants, unless they slept outside of the city, escaped the effect of the poison. The epidemic ended before frost.

The ratio of deaths to cases was much smaller than usual, averaging about 9 per cent.

At the termination of this epidemic, the State Board of Health, then in existence, met in Savannah to inquire into the causes which had brought it about. From their report I cull: "The sanitary condition of the city of Savannah prior to the outbreak of yellow fever in 1876 was exceedingly objectionable. The low-lands which surround the city were undrained; the condition of the sewers was objectionable; the method of cleansing privy-vaults, and of the disposal of their contents, and of the offal of the city, are dangerous to public health. The supply of water is contaminated with organic matter."

One of the principal recommendations of this Board was—"That the low-lands around the city should be properly drained." For this purpose, they petitioned the Legislature. An appropriation was made, and a drainage commission appointed, of which the President of the Board of Health, the late Dr. J. G. Thomas, was the Chairman. Under its direction, ditches were opened, underdrains laid, pools filled, and other sanitary work done where most needed around the city. When the appropriation was exhausted, the drainage commission turned the work over to the care of our county commissioners, who, ever since, have greatly extended the work, using convict labor for the purpose.

The effect of this drainage has been remarkable. Malarial fevers have disappeared, other diseases allied therewith are rarely met with (rheumatism, pleurisy, enlarged spleen,

jaundice, etc.). The mortality which, in the sixties, was 30 and more per thousand, is now 15 for whites. The complexion has changed from sallow to ruddy. Activity is taking the place of indolence. Lands, idle for years, are now in a state of high cultivation.

This new vigor has given an impetus to the commerce of this formerly lethargic city. Manufactures have risen by the hundreds where none were before; and just as long as the laws of hygiene will be carried out by those in authority, and by the people, yellow fever shall *never* be epidemic here again.

I have written this sketch for the purpose of showing those, who are not as familiar with it as I am, that yellow fever acts, in every respect, like other epidemic diseases; its occurrence depends entirely upon the condition of the place. *If cleaned and properly drained, the disease will not propagate* whether in northern or southern latitudes, whatever may be the amount of rain-fall, the heat of the sun, or the number of persons brought in with the disease.

ART. II.—Auscultation of the Heart.

By E. M. MAGRUDER, M. D., of Charlottesville, Va.

In the following paper I have followed the teachings of Page, Loomis, Da Costa, Porter, Towles, Gray, and Landois, which, together with some original ideas of my own, I have condensed and systematized into brief, practical shape, that can be readily applied at the bedside, or in the physician's office. Before proceeding with the subject, a brief review of a few points in the anatomy and physiology of the normal heart becomes necessary for a point of departure.

SITUATION OF THE HEART.

The normal heart is situated obliquely inside of the thorax, one-quarter inch behind the sternum, with its long axis directed from above downwards, forwards, and to the left.

The Base, directed upwards, backwards, and to the right, is, *after death*, on a level with the upper border of the third costal cartilages, extending one-half inch to the right and one inch to the left of the two edges of the sternum respectively. *During life*, however, the whole heart is situated higher in the chest cavity, on account of the distention of the heart and thoracic blood vessels with blood, which raises them higher up. The base *then* corresponds with an oblique line drawn from the first left to the second right intercostal space. (Porter).

The Apex strikes the chest wall in the fifth intercostal space, two inches below and one inch within the left nipple; or, as more recently given, at a point three to three and one-half inches horizontally to the left of the lower end of the gladiolus. (Towles and Porter).

The Pulmonary Artery begins "*behind the junction of third left costal cartilage with the sternum*", runs upward and to the left, across the second left intercostal space ('pulmonary interspace'), and terminates behind the junction of the second left costal cartilage with the sternum." (Page).

The Ascending Aorta begins *behind* the left edge of the sternum, on a level with the lower border of third costal cartilage, passes upward and to the right a little beyond the right edge of the sternum, across the second right intercostal space ("aortic interspace"), and terminates behind the right edge of the sternum, on a level with the upper border of second right costal cartilage. A needle passed through the "aortic interspace" would puncture the aorta close to the sternum. (Page).

THE ORIFICES AND VALVES OF THE HEART.

The orifices of the heart, for the entrance and exit of blood in carrying on the circulation, are four in number, viz., the right and left auriculo-ventricular (*tricuspid* and *mitral*), the pulmonary and aortic orifices. Each orifice is guarded by a separate valve (made up of several segments), whose function is to direct the movement of the blood in a given fixed direction.

SITUATION OF VALVES.

The Pulmonary Valve (three segments), the highest up in the chest and the most superficial, is situated "behind the junction of the third left costal cartilage with the sternum." (Page and Gray).

The Aortic Valve (three segments) is situated "behind the left edge of the sternum on a level with the lower border of the third left costal cartilage." (Page and Gray).

The Mitral Valve (two segments), the deepest (the farthest from the front) and farthest to the left, is situated "behind the third left intercostal space, one inch from the left edge of the sternum." (Towles and Gray).

The Tricuspid Valve (three segments), the lowest down and farthest to the right, is situated "behind the middle of the sternum, on a level with the fourth costal cartilages." (Page and Gray).

A circle one inch in diameter, it is said, will include parts of all these valves.

The left auricle is the lowest part of the heart, instead of the right, as formerly taught; consequently, the *Left Auriculo-Ventricular Axis* is represented by a line drawn from the eighth dorsal vertebra, behind, forward and upward, to the fourth left costo-chondral junction; hence the normal current of blood must follow in the main this direction, from left auricle to left ventricle. (Porter).

The *Right Auriculo-Ventricular Axis* is represented by a line drawn from the junction of the fifth left costal cartilage with the sternum in front, upward, backward, and to the right, to the junction of the right posterior axillary line with the fourth right intercostal space. This line passes almost through the center of the right lung. (Porter).

NORMAL HEART SOUNDS.

In performing its function, the heart makes two sounds, designated in Physiology as the *first* and *second sounds*, respectively.

The First Sound, a long, dull, booming, low-pitched sound, is heard best at the apex of the heart, where it sounds like

“ub.” At the base it is shorter, sharper, and higher-pitched, and sounds like “up.”

The Causes of this Sound are:

(1) Contraction of the muscular fibres of the two ventricles (“muscle sound”). (Landois).

(2) Closure, tension and vibration of mitral and tricuspid valves.

(3) Tension and vibration of chordæ tendineæ.

(4) Rush of blood out of ventricles through aortic and pulmonary orifices.

(5) Apex beat against chest wall.

The Second Sound, a short, sharp, high-pitched sound, is heard best at the base, and sounds like “tâ.”

Cause.—Closure, tension and vibration of aortic and pulmonary valves.

A very good imitation of these sounds can be made by striking on a table with the palmar aspect of the wrist, for the *First* sound, and with the tip of the middle finger of the same hand for the *Second* sound. (Page).

At the apex, the two sounds resemble the pronunciation of *ub tâ*; at the base, the two sounds resemble the pronunciation of *up tâ*.

NORMAL VALVULAR SOUNDS.

During the working of the normal heart, each valve makes a separate and distinct sound of its own, when it closes; but as the two auriculo-ventricular valves open and close at the same time, the sounds made by them occur together. So also do the semilunar (aortic and pulmonary) valves act together, or nearly so, and their sounds occur together, or nearly so (Landois). Thus we have practically two valvular sounds occurring in connection with the normal heart, instead of four.

ABNORMAL HEART SOUNDS (“*Heart Murmurs*”).

These are adventitious sounds, heard in connection with the heart, in addition to, or in the place of, normal sounds. They are either *valvular* (*i. e.*, caused by some abnormality affecting a valve or valvular orifice), or *non-valvular* (*i. e.*,

caused by some abnormality affecting the rest of the heart organically, or the nervous apparatus of the heart or the blood). Heart murmurs are described as "blowing" in quality (Page and Da Costa), and are represented by the combination "sh," pronounced as one syllable, as *sh* in *ship*. (Page).

It is foreign to my purpose to enter into a discussion of all the many abnormal heart sounds. My object is simply to systematize the knowledge we possess into a few practical rules which the student and young practitioner can readily apply in the diagnosis of the *more common valvular* lesions of the heart. Not more than a passing mention will be made of the rarely occurring heart murmurs connected with the right side of the heart, on account of their extreme rarity. Porter says that, during twelve years of observation, in which one thousand autopsies were held, only one valvular lesion of the right heart was found, and that was a pulmonary incompetency due to congenital perforation of the pulmonary valve, which had never been recognized during life.

Consideration of all functional murmurs, organic murmurs not valvular, and combinations of murmurs, will be referred to at another time.

This reduces us to the four more common organic valvular murmurs of the left heart, *i. e.*, *mitral obstructive*, *mitral regurgitant*, *aortic obstructive*, and *aortic regurgitant* murmurs.

The *causes* of obstructive and regurgitant murmurs are briefly and principally organic lesions affecting the valves or orifices of the valves, such as—

- (1) Inflammatory narrowing or constriction of the orifices.
- (2) Inflammatory vegetations and granulations on the valves.
- (3) Inflammatory thickening of the valves.
- (4) Calcareous deposits on the valves.
- (5) Congenital apertures in the valve segments.
- (6) Rupture of a valve segment or chorda tendinea, etc.

These may act either by obstructing the blood current, just as stones in the bed of a small stream obstruct and

cause sounds designated as murmuring or babbling ("babbling brook"); or they may interfere with the perfect closure of the valve segments, causing thereby a leak, and, consequently, an additional sound connected with the regurgitating current.

Before proceeding farther, it will be well to consider *two important laws* which are concerned with the "transmission" of sound, both in the sense of "conduction" and "conveyance."

Law I.—Solids, liquids, and gases (at rest), all conduct sound more or less, but solids are better conductors than liquids or gases.

Law II.—(a) *Cardiac valvular sounds* (normal and abnormal) are developed at the seats of the cardiac valves. (b) *Cardiac valvular sounds* (normal and abnormal) are transmitted (conveyed) by the blood currents, which aid in their production, so as to be heard with greatest intensity (loudness) *not over*, but just *beyond* the seat of their development, in the direction in which the blood is moving. (c) *Abnormal cardiac valvular sounds* are transmitted either by the "conducting" power of some solid (bone, muscle, etc.) in proximity, or by the "conveying" power of the blood currents, which aid in their production, from the seat of their development, so as to be heard at other points besides the point of greatest intensity.

"Transmission" is a term used here with reference either to "conduction" or "conveyance" of sound.

A discrimination must be made between the "conduction" of sound by the vibration of the atoms and molecules of a substance (solid, liquid or gas, bone, muscle, etc.) at rest, and the "conveyance" (carrying) of sound by the mass of that substance in motion (as by a vehicle, blood current, etc.). Thus, if one end of a cane be held to the ear and the other end be scratched with the finger, the sound is "conducted" to the ear by the vibration of the molecules of the cane which were at rest and were set in motion by the scratching. Or, if the head be immersed in still water, and two stones in the hands be struck together,

the sound of the striking is "conducted" to the ear by the vibration of the molecules of the still water. Likewise, the strains of a musical instrument are "conducted" to the ear by the vibrations of the molecules of air, which are, *en masse*, at rest.

On the other hand, the "conveyance" of sound *en masse* by the mass of a substance in motion, may be illustrated by a band of music in a wagon, boat, or balloon, the sound becoming more distinct as the vehicle approaches. In this case, the sound is conveyed or carried bodily, as it were.

The above laws apply with equal force to normal physiological valvular sounds as well as to abnormal valvular sounds ("valvular murmurs"); and a proper appreciation of them enables us to understand why normal valvular sounds and valvular murmurs are heard with greatest intensity, *not* at the seat of their development, as we would expect, but at some other point.

AUSCULTATION OF THE NORMAL VALVULAR SOUNDS.

Pulmonary Valvular Sounds (Normal).—These are heard with greatest intensity (loudness) not over the valve, because bone and cartilage, acting as a muffler, intervene between them and the ear of the examiner, but beyond it in the "pulmonary interspace," where there is not so much tissue intervening, being transmitted (conveyed) to that point by the blood current in the pulmonary artery. (*Law II, b.*)

Aortic Valvular Sounds (Normal).—These are heard with greatest intensity, not over the valve, because thick bone intervenes, but beyond it in the "aortic interspace," where not so much tissue intervenes, being transmitted (conveyed) to that point by the blood current in the aorta. (*Law II, b.*)

Mitral Valvular Sounds (Normal).—These are heard with greatest intensity, not over the valve, because the right ventricle and pulmonary tissue intervene, but beyond it at the apex, being (1) transmitted (conveyed) to that point by the blood current passing through the mitral orifice towards the apex (*Law II, b.*); and (2) transmitted (conducted) to that point by the thick solid wall of the left ventricle, which takes up the sound at the valve (*Law I*).

Tricuspid Valvular Sounds (Normal).—These are heard with greatest intensity, not over the valve, because thick bone (sternum) and the right ventricular wall intervene, but beyond and below it, over the “base of the ensiform cartilage,” being transmitted (conducted) to that point by the solid wall of the right ventricle and sternum (*Law I*). This is an exception to *Law II*, b.

With a thorough knowledge of the anatomy and physiology of the heart and of the two laws above given, *Four Rules can be formulated for the Diagnosis by Auscultation of Valvular Murmurs, with the aid of a Fifth, which is dependent on Percussion.*

Rule I.—Determine by auscultation at the four points of greatest intensity of normal valvular sounds, whether an abnormal sound connected with the heart is present or not,

Is an abnormal sound present? If present,

Rule II.—Determine its point of maximum intensity by auscultation over the whole cardiac region. (Where is it heard loudest?)

Rule III.—Determine the time of its occurrence with reference to the normal heart sounds. That is, determine whether it precedes, occurs with, or takes the place of the first or second normal sounds. (When does it occur?)

Rule IV.—Determine the other (distant) point or points to which it is transmitted. (To what other points is it transmitted?)

This is generally some remote point or points to which the sound is transmitted, either by some solid body, as a rib, the cardiac muscle, sternum, etc., or by the blood current leading from the affected valve, as by a vehicle.

Rule V.—Determine what changes have occurred in the heart.

All valvular lesions cause enlargement of the heart, as dilatation, hypertrophy, or dilated hypertrophy, each lesion causing an enlargement peculiar to itself. (Page.)

What part of the heart is enlarged? This, of course, is determined by

Percussion, and should not be treated of in a paper on Auscultation; but as it is an important point to be noted, it is inserted here.

AUSCULTATION OF ABNORMAL VALVULAR SOUNDS.

("Valvular Murmurs,")

Including only the four commonly occurring.

A.—MITRAL OBSTRUCTIVE MURMUR.

I. The *presence of a murmur* having been determined—

II. *Point of Maximum Intensity*: Fourth left costo-chondral articulation (Porter), because, this being the anterior extremity of the left auriculo-ventricular axis, the obstructive sound made at the mitral valve (*Law II, a*) is transmitted (conveyed) to this point from the deeply situated valve by the normal direct blood current (*Law II, b*).

III. *Time of Occurrence*: It precedes the first sound (pre-systolic), because it occurs while the blood is passing through the mitral orifice where the sound is produced (*Law II, a*) and before the contraction of the ventricles, which is the exciting cause of the first sound. Thus, sh-ub tâ.

IV. *Other Points of Transmission*: It is not generally transmitted, because it is not loud enough on account of weakness of left auricle (Porter). Page, however, says it is transmitted behind and all over the chest.

V. *Changes in the Heart*: (1) Enlargement of the left auricle, because more work is thrown upon it in order to force blood past the obstruction.

(2) Enlargement of the right ventricle, because the blood, being dammed back upon the right heart through the lungs, the right ventricle also has more work to do to rid itself of extra blood.

B.—MITRAL REGURGITANT MURMUR.

(Most frequent of all.—Page.)

I. The *presence of a murmur* having been determined;—

II. *Point of Maximum Intensity*: The *apex* of the heart, because the regurgitating sound made at the mitral valve

is caught up by the solid left ventricular wall and transmitted (conducted) to the apex, which is composed of left ventricle (*Law I*). This is another exception to *Law II*, b.

III. *Time of Occurrence*: It occurs with, and, if loud enough, may take the place of, the first sound (systolic), because it is produced by the reverse (regurgitating) current, forced backward through the leak in the valve into the left auricle, at the very time in which the first sound is also being produced, two of whose factors, viz: the perfect closure and vibration of valve segments and vibration of its chordæ tendineæ, are absent and replaced by the murmur of the reverse current. Thus, u-sh—tâ.

Other Points of Transmission: (1) *Behind* to a point just to the left of eighth dorsal vertebra, because that vertebra is the posterior extremity of the left auriculo-ventricular axis, the direction followed by the reverse current, which transmits (conveys) the sound to that point (*Law II*, b). At this point the intensity is nearly as great as at the apex, but is prevented by the greater distance from the heart.

(2) *Left subaxillary region*, the sound being transmitted (conducted) to that point from the apex by the ribs (*Law I*).

V. *Changes in the Heart*: (1) Enlargement of the left auricle which, being over-distended with blood by the leak, has extra work to do.

(2) Enlargement of the left ventricle, which is stimulated to do extra work in order to make up to the system at large the deficit in the blood which it receives.

(3) Enlargement of the right ventricle, which is also engorged with blood by the damming back through the pulmonary circulation from the left auricle, and thus has extra work to do.

C.—AORTIC OBSTRUCTIVE MURMUR.

(Aortic obstruction is the least harmful of valvular lesions—Page.)

I. *The presence of a murmur* having been determined,

II. *Point of Maximum Intensity*.—The “aortic interspace” (Page and Porter), because the normal direct blood-current in the aorta transmits (conveys) the sound made at the aor-

tic valve along with it across this interspace (*Law II. b*), and at this point there is less tissue intervening than over the valve, which has the thick sternum muffling the sound in front of it.

III. *Time of Occurrence*.—It occurs with the first sound (systolic), or just before the second sound, as it is produced by the direct current rushing out of the left ventricle against the obstruction at the aortic orifice during contraction of the ventricles, and hence during the formation of the first sound and just before the formation of the second sound. Thus up *sh-tâ*.

IV.—*Other Points of Transmission*.—(1) *Upward* into the arteries of the neck (common carotids and subclavians), being transmitted (conveyed) into them by the normal current according to *Law II, c*.

(2) *Behind* to fourth and fifth dorsal vertebræ, being transmitted (conveyed) to that point by the aortic current which runs by the side of those vertebræ (*Law II, c*).

(3) All along the solid sternum, which is in close proximity to the valve (*Law I*).

V. *Changes in the Heart*.—Enlargement of left ventricle on account of the extra work thrown upon that ventricle in order to overcome the resistance offered by the obstruction at the aortic valve.

D.—AORTIC REGURGITANT MURMUR.

(Aortic regurgitation is the most hopeless and fatal of valvular lesions—Page.)

I. The *presence of a murmur* having been determined,

II. *Point of Maximum Intensity*.—*Junction of third left intercostal space with the sternum* (Porter), because the reverse (regurgitant) current passing downwards, and to the left, emerges from behind the sternum, which acts as a muffler, at this point, transmitting (conveying) the murmur made at the aortic valve along with it (*Law II, b*). At this point, less tissue intervenes than over the valve which has thick sternum in front.

III. *Time of Occurrence*.—It occurs with, and if loud

enough, may take the place of the second sound (diastolic), because it is produced by the reverse (regurgitant) current forced backward by the elastic aorta through the leak in the valve into the left ventricle at the very time in which the second sound is also being produced by the closure of the valve, which is imperfectly accomplished. Thus up t-sh.

IV. *Other Points of Transmission.*—(1) *The apex*, by the reverse current, which flows somewhat in that direction (Law II, c).

(2) *The ensiform cartilage*, by the solid sternum (Law I), which is close to the valve.

(3) *All along the sternum* (Law I). Sometimes it is so loud it may be heard all over the room, and may prevent sleep—(Page and Da Costa).

V. *Changes in the Heart.*—Enlargement of the left ventricle, because this ventricle has more work to do to rid itself of the extra blood that regurgitates into it through the leak.

This murmur is accompanied by a peculiar character of the pulse called the “water hammer,” or “collapsing” pulse. Owing to the enlargement (hypertrophy) of the left ventricle, the blood is driven with great force into the arteries; but as the aorta empties itself in two directions at once, the “pulse,” which starts with a thump, suddenly collapses, as it is not sustained—(Page and Da Costa).

Arterial pulsation is also visible all over the body, wherever the arteries come near the surface, on account of the powerful contraction of the hypertrophied left ventricle—(Page and Da Costa).

The foregoing is submitted simply as an *aid* to the diagnosis of heart murmurs, as the absurdity of laying down *iron-clad* rules is fully recognized. It will be found, however, that what has been said above can generally be applied to the majority of these troubles, although many cases occur which seem to violate all rules.

The following *addenda* may be here introduced :

I. The transverse aorta begins behind the right edge of the sternum on a level with the upper border of the second right costal cartilage, passes backward and to the left, and terminates at left side of third dorsal vertebræ. Thence the descending aorta passes on downwards by the left side of the fourth and fifth dorsal vertebræ; and this accounts for the fact that the aortic obstructive murmur is transmitted so as to be heard behind at the fourth and fifth dorsal vertebræ.

II. Sound can be conveyed (carried) by a blood current just as a playing band of music is conveyed by a moving wagon, etc.

III. The cardiac valves are so close together that it would be well-nigh impossible to study their sounds over the valves, and their transmission to other points facilitates their differentiation and study.

IV. The loudness or feebleness of a cardiac murmur is no indication of the gravity of the lesion. (Page and Da Costa.)

V. The aortic regurgitant murmur is the only murmur that is accompanied by a *characteristic pulse*.

ART. III.—Radical Cure of Aural Polypi.*

By V. T. CHURCHMAN, M. D., of Charleston, W. Va.

The object of this brief paper is to consider the growths that arise from the tympanic cavity and the membrana tympani. I shall also speak of the negligence of some physicians to this important subject.

Polypi or granulations are regarded as the products of an inflammatory condition, which are composed of connective tissue, new growth, pedunculated, and covered with epithelium. They may have their origin from any part of the external canal, membrana, or from the middle ear. In point of frequency, they occur as follows: First, the majority arise from the tympanum; secondly, from the membrana tym-

* Read before the Charleston Medical and Surgical Society of Charleston, W. Va., March 27th, 1894.

pani, especially that portion called Shrapnell's membrane; thirdly, and lastly, from the osseous meatus.

Etiology.—As they *always* follow, and never precede suppurative diseases, I believe them to be either the result of a suppurative disease of the middle ear or external meatus, or to arise from some necrosis.

It is next to impossible to say positively where granulations stop and polypi begin, since it is known that polypi are simply the further development of the granulations, and furthermore, only receives another name on account of its size. We must not lose sight of the fact that there are several varieties of polypi—namely, the cystic polypi, fibromatous, angiomatous, and myxomatous; nevertheless, all these varieties spring from a common source, and that is granulations—receiving their different names from the character of the surface from which they grow, as well as the histological stages through which they pass.

From the above, we can conclude that when granulations and polypi are present, there either is, or has been, pus to cause such changes (except in cases of traumatism); therefore, you must not be deceived into believing that pus does not exist simply because you did not find it upon first examination.

There are a great many cases where the growth has been removed and the discharge will cease, and both physician and patient will congratulate themselves upon having obtained a cure. But the question is, Has he been radically cured? I answer, no; because, in a short time, he will be suddenly attacked with severe pain in the ear, running through both temporal and mastoid bones, especially the latter. There will be more or less fever, with or without vomiting. Again, we may have all the symptoms of acute cerebral inflammation. You may here ask, What has caused these violent symptoms? My belief is that they are caused by inspissated masses of mucus and pus which have collected behind a wall of hardened epithelium thoroughly mixed with pus, and which have entirely closed up the

opening caused by a previous rupture of the drum-head, and in this way damming back all discharges, which will continue to form until the accumulation will cause severe pressure, and thereby brain and mastoid diseases will be a result. Therefore, if we are to expect any benefit, or even a permanent cure in some cases, we will have to successfully treat the primary cause (which I believe to be suppuration). This, however, has not been accepted by many surgeons, as they will resort to the frequent removals of the growth and with the unsuccessful attempts to destroy the pedicle.

It is well known that there is increasing interest manifested by the profession in diseases of the ear. Every physician thus interested is very familiar with the many cases that apply to him for a cure of aural polypi, in some form. A great many of these cases will give a history of having the growth removed several times. As you will see from the case below, the growth was removed several times, and each time it returned worse than before. Some will give a history of having had the growth removed, and "the root burned out," either with some acid, or with the galvanocautery. All of this treatment has given only temporary relief, and the patient finds his hearing gradually being destroyed, and he becomes perfectly disgusted with the entire medical profession, and especially "ear doctors." It is for this reason, more than for any other, that this branch of medicine and surgery has fallen into the hands of the quack and the charlatan.

Until the past few years, otology had almost reached the bottom round of the ladder of science; but, thanks to a few men, who believed they were right, and have brought this branch of surgery up to the standard.

The so-called "doctors" are not all dead, who will advise a patient to "let well enough alone," and will tell their patients that "it is all right as long as the ear will run."

Another mistake that is often made is the belief that the affection upon which the discharge depends will, in time, disappear spontaneously, or, to use a common expression,

that the patient, if a child, will gradually outgrow it. Such an opinion is as absurd as it is culpable, and cannot be too severely censured. The poor patient, ignorant of his own danger and welfare, and confiding in the judgment of his professional adviser, goes on from bad to worse, until he finds that his ear is almost completely disarranged, and that he is gradually becoming deaf.

Such cases are not of infrequent occurrence; and, while we must sympathize with the poor sufferer, we cannot help being indignant at the so-called "surgeon," who, either through ignorance, indolence, or supineness, neglects to make himself acquainted with the true nature and treatment of this disease. These same physicians who give this advice are always ready to open, clean out, and properly treat pus cavities in other parts of the body, and why it is they should give this advice, when often a life is at stake, I cannot understand, unless it be from ignorance on their part.

To illustrate this, I will mention one case which I can now call to mind: It was on August 16, 1893, that D. M. M., aged 40 years, was brought to me by Dr. Patrick, of this city. There was a history of a "running ear" for several years. This poor man had been treated by a number of physicians in this county; the last two of whom had treated him until mastoiditis had actually commenced, and then told him that nothing more could be done for him, and advised him to go to some city, as specialists might be able to do something for him.

I only mention this particular case, because Dr. Patrick is a member of this Society and knows full well its history.

Now, when we still have men in our profession who are so ignorant of the welfare of their patients as to give such advice and treatment as this, can we blame the patient for allowing his disease to run on until either brain or mastoid complications have set in?

Fortunately, there are a great many cases of polypi that will yield to one or the other of the several methods given for their treatment. When, however, after faithfully trying the ordinary methods and I find I can obtain no good re-

sults, I immediately advise the removal of drum, with one or more of the ossicles. This is my rule where I have evidence that some other physician has faithfully tried other remedies. Thus, by a complete removal of the polypus, drum, and one or more of the ossicles, we will cure the discharge, and thereby prevent the recurrence of the polypus, as it has been shown that the polypus was caused by the suppuration. For, so long as you have confined pus, it will be sure to act as an exciting agent to infect other parts, and thus increase the suppuration and the destruction of contiguous parts.

In the beginning of my paper, I stated that the majority of aural polypi arise from the tympanum. This, as will plainly be seen, protrudes through an opening in the drum. At this point it is removed, only to return again; or, as I have before stated, some will make an effort to destroy the pedicle, either with acids or else with the galvano-cautery—when, in reality, they are not able to do this, nor can it be treated properly so long as the drum and diseased ossicula are intact.

Even though you be able to remove the polypus successfully, what condition have you left the ear in? Have you removed the cause? Have you cured your patient? To the last two questions, I answer most emphatically, *No*.

In answer to the first, I contend that the ear is in no better condition, and, in some cases, is even worse, because very often the opening for the discharge of pus will be found, not through the drum, but in the soft parts which form the upper and posterior boundary of the membrane. These are conditions in which epithelial masses and cheesy and decomposing pus will continue to accumulate in the mastoid antrum, until the narrow outlet channel into the tympanic cavity, proper, becomes completely obstructed. The disease may now extend to the neighboring lateral sinuses, or to the brain itself.

It is of the utmost importance that the attending physician should recognize this condition *at once*, because it is

now too late to remove the drum; but a direct outlet should be made by which the decomposing pus in the antrum may find an easy escape, and the only way for this is by boring or chiselling a channel through the bony mastoid process. Nor should this be postponed until we find external signs of mastoid disease, such as redness, swelling and tenderness behind the ear, because those channels, along which the inflammation may travel to the soft parts covering the bone, are, in this class of cases, obliterated by the hyperostosis, which has been caused by the chronic inflammation. Thus as you can plainly see it would be impossible for the inflammation to spread through a mass of solid bone and give us the danger signals. This fact should never be lost sight of when we are called in to see those chronic cases of suppurative otitis media with acute exacerbations, or we may let slip through our fingers the opportunity of rescuing a life which will otherwise succumb to some ulcerative disease of the antrum or else some brain complications. Therefore it is only carrying out a principle of common sense to remove the drum and diseased ossicula in order that we may have *free drainage* and to allow us an opportunity to properly treat the diseased portions.

By following this plan of treatment, the suppuration can be entirely cured, hearing in the majority of cases improved, in some few cases it is made normal, and with such results it is impossible for the polypus to be reproduced.

In these cases where I can obtain free drainage I do not attempt to destroy the pedicle, for by the use of proper anti-septic washes the exciting cause will be removed and the pedicle will atrophy and disappear.

I will relate two cases, the *first* to illustrate the foregoing statements, and the *other* to illustrate the negligence of both physician and patient to this subject.

CASE I.—F. R. K., age 30, occupation carpenter. Has had a running ear nearly all his life, caused by an abscess when a baby. When 10 years of age, he had a polypus removed from the left ear. This only gave him temporary relief, and it was again removed 6 years later and the "*roots burned*

out," the discharge ceased, and he thought he was cured; but in a few months noticed it began to discharge again. He consulted a physician about 10 years ago, who told him to "*let it alone as long as it gave him no pain and the discharge was healthy.*" After this he consulted several physicians, and they only told him to wash the ear with "*borax water*" and keep it clean, as nothing more could be done for it. Four years ago he went to a physician, who found the polypus again growing. This physician removed the mass, and made an effort to burn out the pedicle with the galvanocautery.

He first consulted me August 24, 1892, when I found the growth protruding from the auditory canal. He was suffering severe pains in the temple and mastoid process. I removed the growth (as others had done), and prescribed an antiseptic wash.

He returned again September 27th with the growth nearly as large as ever. I then advised the removal of the drum with the diseased ossicula. This he would not agree to until October 2d, when, with the assistance of Dr. G. C. Schoolfield, I removed the drum and malleus.

The discharge soon ceased after the operation, and his hearing returned almost normal, and has continued so until date.

CASE II.—About August 20, 1892, Charles H. consulted me concerning his ear. There was a history of a running ear for a number of years. There were times when the ear would be perfectly free from all discharges for several months.

He had been told by a number of physicians to let it alone as long as it gave him no "*serious*" trouble.

Upon examination, I found a slight discharge of pus, which was passing from the middle ear through an opening which had been made, by nature, through the soft parts at the upper and posterior portion of the drum membrane. Surrounding this opening were dried pieces of pus. Hearing was almost normal. When questioned as to what treatment he was using, he had been syringing the ear with a solution of equal parts of soda and borax, which kept the ear cleansed. He said he had not used even this for several days.

My advice to him was to have the drum membrane removed, in order that the middle ear might be properly treated. I explained to him the danger he was running, and he left, saying he would think over it and speak with the physician who was then treating him. I did not see

him again for three or four weeks, and he then told me he had been advised by the other physician not to have the operation performed; but he had about made up his own mind to have the operation performed any way.

He was never able to make up his mind, but allowed the trouble to go on until last fall when mastoiditis and other complications set in, and death was the result.

It is useless for me to tell you that death in this case was the result of the ignorant advice of his medical adviser.

ART. IV.—Placenta Prævia: How to Treat It.*

By Q. C. SMITH, M. D., of Austin, Tex.

"To trifle with such cases is the best way to maintain the present mournful statistics."—LUSK.

The treatment of placenta prævia should, as a matter of course, be adapted to meet the many varied conditions and indications liable to obtain in any given case, and cases vary greatly, even in the same month of pregnancy.

But as it is rare for *death* to occur from (*hæmorrhage*) placenta prævia before the seventh month, we will consider, briefly, the treatment best suited to cases that have progressed at least to the seventh month of pregnancy. However, the treatment we advise is more or less applicable to the relief of many cases occurring earlier than the seventh month of pregnancy.

Our plan of treatment of placenta prævia is based upon the idea that the safety and welfare of the *mother* is by far of the *first* importance, that of the *fœtus* secondary—though not ignored—as its interests are thus better conserved than when the usual text-book waiting, hesitating treatment is carried out.

A more or less sudden hæmorrhage is the immediate reason of the physician being called in the majority of cases. And it often occurs that this primary hæmorrhage

*Elaboration of notes read before Texas State Medical Association, April, 1894.

has ceased, partially or entirely, before the doctor arrives. But if the hæmorrhage is still considerable—when the cervix is apt to be softened and relaxed—then quickly pass the finger through the placenta and evacuate the waters, keeping firm, steady, continued pressure and compression over the fundus uteri until other hæmostatic measures can be brought to bear.

But maybe the cervix is so small and rigid that the finger cannot pass through it; if so, douche the cervix with hot styptic water until the hæmorrhage is partially or entirely staunched. Then place the patient in Sims' position, introduce a speculum—we prefer Dawson-Sims—pass a tube or long syringe nozzle through the cervix, and slowly inject *hot* styptic water (*e g.*, hot solution of alum) until all hæmorrhage ceases. Remove the speculum, pass a catheter and empty the bladder, administer a hypodermic of three to five grains bimuriate quinine and urea, and give hot whiskey toddies until the patient is well under the narcotic and anæsthetic influence of the whiskey. And if the cervix is still very rigid, give a drachm of fluid extract of ipecac, as *large* doses of ipecac are far more hæmostatic and equalizing of nervous force, and less emetic, than *small* doses.

Now proceed, without delay, to introduce the speculum and carefully dilate the cervix, using such dilators as may be necessary, injecting the hot styptic water q. s. from time to time to staunch hæmorrhage. With a Simpson sound, curved to suit the case, carefully separate the placenta from the lower zone of the uterine wall to three or four inches of the cervix, using the hot styptic injections freely from time to time and until all bleeding ceases. Then introduce a large Barnes' rubber dilator into the cervix and slowly fill it with plain warm water until the cervix is tautly distended, slowly increasing the size of the dilator as the cervix relaxes. Should the vagina not be soft, distensible and capacious (remove the speculum), then introduce a larger Barnes rubber dilator up to the cervix and slowly fill it with plain warm water. By the time these measures

have been carried out, or soon after, uterine contractions usually soon come on, and if they be quite strong, frequent and regular for half hour—having plenty of hot styptic water ready—remove both rubber bags while they are distended, if possible, making traction during labor pains, keeping up well-applied, steady manual pressure and compression over the fundus uteri. As soon as the bags are removed, pass the finger through the placenta, evacuate the waters, and ascertain the presentation. With proper care and manual assistance, labor will now, in the majority of cases, progress to successful termination without further instrumental interference. But if necessary, deliver by the feet or with forceps, and apply external manual pressure and compression, closely following the fœtus as it moves down and out. This manual pressure and compression will often cause the placenta to pass partly or entirely out of the uterus and sometimes out of the vagina; if not, it should be promptly removed. Then, if steady, continued, external manual pressure and compression do not cause the uterus to contract and restrain hæmorrhage, douche the uterine cavity with hot alum water, hot dilute vinegar, hot chloroform water, or hot dilute phenol sodique, but never with ferruginous solutions.

The after-treatment should be much the same as that which should be carried out in cases of carefully managed normal labor. An antiseptic healing ointment, somewhat like the formula given below, should be gently spread over the external and internal surfaces of the labia and parts near around, and thickly spread upon a pledget of absorbent cotton, large enough to well cover the pudendum, to be kept closely applied, and renewed, on a fresh pledget of cotton, every three to six hours for the first few days, then three or four times a day until lochia ceases; the external parts being carefully cleansed with very warm Packer tar soap suds just before each time the ointment is re-applied. This elegant puerperal ointment is made thus:

R _y —Oleum pini pumilionis.....	
Oleum sassafras.....	
Oleum camphor.....	āā ʒij
Oleum cinnamon.....	ʒj
Sacchar. alba, in <i>very fine</i> powder,	ʒiv
Lavolin.....	ʒij
Lanolin.....	ʒvj

Mix *well* and make ointment. S.—Apply as directed.

But no vaginal or uterine injections should be used, unless pronounced fever or peritonitis supervenes.

The bowels should move once every day; salines, phosphate sodium, being preferable if drugs are required, though enemata may often well supersede laxatives per orem; glycerin and ox or hog gall, each half tablespoonful, with tablespoonful warm water, as an enema, once a day, is quite efficient. Patient should take two to four grains quinine twice a day for several days following labor, and have a generous diet of such food as patient desires.

By the management of a case of placenta prævia upon the plan we have briefly outlined, we remove this much dreaded circumstance (the mere thought of which, as portrayed by our former obstetric teachers and text-books, made many of us tremble in our earlier years) from the realm of anxious hopes, dreads and fears, and place it where it belongs—in the list of legitimate and successful surgical operations.

The surgeon, feeling confident of being complete master of the perilous situation, can strongly assure the apprehensive suffering patient, and her anxious friends, of certain and early relief and safety, and thus bring solace and joy to distressed families, and preserve many precious lives that otherwise would go to swell the already too large “mournful statistics” the misguided trifling of the hesitating deplorable past has labored to maintain.

617 *Colorado St.*

ART. V.—A Study of the Soil in Relation to Health and Disease.

By GEORGE M. KOBEL, M. D., of Fort Bidwell, California.

[CONTINUED FROM MAY NUMBER.]

The Relations of Soils to Certain Diseases.—Whilst it will be impossible to consider here, in all its details, the influence of soil in the production of diseases, we shall enumerate a few of the most prominent affections believed to be intimately connected with the constitution of certain soils:

(1) *Endemic Goitre and Cretinism.*—According to Bircher's investigations, these affections occur solely in localities where the soil and geological formations are composed of marine deposits of the Palaeozoic age—the trias and tertiary period. The eruptive formations, the crystallized rocks of the ancient formation, the sediments of tufa and chalk, as well as those of the quaternary period, and all sweet-water deposits, are believed to be free from the disease-producing agent, which Bircher believes to be the "navicula," a form of the algæ, which occurs in the drinking water of these marine deposits.

Kratter, however, found that alpine cretinism was most prevalent in localities where the soil consisted of the debris of primitive rocks, and the springs had their origin in such formations that it was rarely seen in limestone regions, that it was not observed in altitudes above 3,400 feet, nor below those of a 1,000 feet, and that it was most frequent in altitudes between 1,400 and 2,300 feet.

It was formerly believed that these diseases were connected with limestone formations, but, in the mountains of Tyrol it occurs much oftener in slate districts, and the limestone regions of England and France afford comparatively few cases. Some authors attribute the cause to magnesian-limestone deposits, and Klebs disclaims the influence of soil formations on these affections altogether. The evidence is quite conflicting, but it is very certain that goitrous and cretinic districts exist, and there are numerous well-attested

cases of healthy women living during their pregnancy in such districts, bringing forth cretinoid children, who, removing from such localities, propagate healthy children.—[*Down.*]

(2) *Malaria*.—It has not yet been definitely settled whether Klebs' bacillus or Laveran's plasmodium malarie is the etiological factor of malarial diseases. Both organisms are believed to have their habitat in malarial soils. Whilst it is impossible to give the exact composition of the soil requisite for the development of malaria, we know that it requires a soil rich in organic matter—moist, but subject to periodical dryness. Such soils are principally found in valleys or on plains, with depressions favoring the stagnation of water and formation of marshes; also in localities subject to periodical overflows, especially near the sea-coast, where a mixture of sweet and salt water results in the so-called brackish water. Endemic malaria is not observed in dry, well-drained soils, especially when poor in organic matter. Another important factor is a certain degree of heat. Tommasi-Crudeli demonstrated that his bacillus only matured at a temperature of 36° and above; the inference is that soils possessing a lower temperature than 36° cannot produce the germs, and our knowledge of the geographical distribution of malaria confirms this. The disease is very infrequent in the northern part of the United States; it is a rarity in the Faroean Islands, and unknown further north, whilst it increases as we travel south, and amounts to almost a scourge in sub-tropical and tropical climates. As a periodical drying of the soil is one of the factors necessary for the diffusion of the malaria, it may be claimed that this process liberates the microbes, which are held down as long as the soil is moist. But this is not applicable in all cases, for we know that malarial intoxication often follows large excavating operations before the soil even had an opportunity of becoming pulverized.

The good effects of drainage in reducing malarial affections almost 75 per cent. have been demonstrated in Michi-

gan, and similar results have been obtained in Italy, France, Algiers, England, and Germany.

The withdrawal of moisture, and consequent change of environments, evidently prevents the propagation of the germs, as the disappearance or diminution of the disease resulted from proper drainage.

(3) *Dysentery*.—Clinical experience points to the fact that dysentery is most prevalent in malarious regions. Wasserfuhr attributes the virus of dysentery to a moist, warm soil, charged with organic matter and polluted with animal excreta; he refers to a locality in Alsace used for an artillery drill-ground, which not only affords numerous cases of dysentery, but also of malarial fevers and intermittent neuralgia. The soil is peaty, resting on a layer of sand which is upheld by a deposit of dense clay. Prof. Virchow, however, tells us that dysentery occurs in localities which are quite free from malaria, as in certain parts of Egypt, where its prevalence is solely attributed to impure drinking water. It is quite probable that soil-pollution added to a malarious soil, especially in overcrowded camps, favors the development of the virus of dysentery, which finally enters the system in the form of amœbæ through contaminated drinking water.

(4) *Tuberculosis*.—The relations between dampness of soil and pulmonary consumption were first pointed out by Dr. Bowditch, of Boston, and Dr. Geo. Buchanan, of England, and the facts compel a fair investigation. Dr. Buchanan, in the Ninth Report of the Medical Officer of the Privy Council, London, 1867, also supplies ample statistical proof that consumption became less frequent in certain towns after they had been sewered and the soil consequently drained. In some towns, where the drainage was perfect, the deaths from phthisis were reduced by a third, or even by half.

	<i>Mortality from Consumption</i>		
	<i>Before Sewers.</i>	<i>After Sewers.</i>	<i>Decrease.</i>
Merthyr,	38.66	34.33	4.33
Bristol,	31.00	25.50	5.50
Leicester,	43.33	29.25	14.08
Cheltenham,	28.75	21.25	7.50
Cardiff,	34.75	28.66	6.09
Macclesfield,	51.50	35.60	15.90
Newport,	37.00	25.00	12.00
Warwick,	40.00	32.33	7.67
Banbury,	26.66	15.66	11.00
Salisbury,	44.33	22.66	21.67
Ely,	31.00	16.75	14.25
Worthing,	30.50	19.50	11.00
Rugby,	28.50	16.25	12.25

It is true that a reduction in mortality did not always follow the introduction of sewers, but in such instances it may be fairly assumed that the soil was previously quite dry, and could not be affected by increased drainage.

Uffelmann refers to a striking illustration of damp habitations as a predisposing cause to consumption. It is a prison near Vienna containing on an average 200 inmates. Every convict is examined before his transport, and if found affected with incipient phthisis, he is sent elsewhere. In spite of this precaution, the deaths number about fifty per annum, and the majority die from consumption. The prisoners are better fed in this institution than elsewhere, but the building rests on a damp, clayey soil, the walls are reeking with moisture, and the rooms smell musty.

The relation of dampness to consumption can only be explained on the ground that the bacilli of tuberculosis luxuriate best in such an atmosphere, which, on account of its humidity, very likely contains also much organic matter. Apart from this, a damp air naturally predisposes to catarrhal affections, and these, in turn, render the mucous membrane more vulnerable to the invasion of the tubercle bacilli.

(5) *Enteric Fever and Cholera.*—There is considerable difference of opinion on the influence of soil as a factor in the causation of these diseases. Prof. Pettenkoffer and his ad-

herents believe that the soil is absolutely essential in the spread of these diseases; that the virus develops in the soil and is carried by emanations into the air, and that the rise and fall of the ground-water determines the frequency of these diseases. He holds that a fall of the subsoil water is followed by an increase, and a rise of this water by a decrease in the number of cases. The majority of sanitarians of the present day assume, however, that the virus of typhoid fever and cholera is reproduced in the body of those afflicted with the disease; that it requires no further elaboration or maturity; that this virus leaves the body in the excretions and is capable of proliferation wherever it finds suitable environments; they look upon certain articles of food, as well as certain waters and soils, especially those contaminated with organic matter, as suitable media for the multiplication of these germs. According to this view, the soil is simply the medium for the propagation of these germs and their transference into the drinking water; and whilst the rise and fall of the ground-water doubtless facilitates their passage into springs and wells, it plays another rôle in so far as it affects the amount of air, heat and moisture requisite for the multiplication of these germs.

(6) *Cerebro-Spinal Meningitis*.—Clinical experience points to the fact that this disease occurs most frequently in damp and polluted localities. In the numerous epidemics which have been studied, the habitations were found almost invariably damp, the soil polluted, and in many instances the outbreak followed floods or inundations.

Sanitary Measures in Reference to Soil.—From the foregoing remarks, it is evident that the principal sources of danger from soil are *dampness* and *soil-pollution*.

The relations of dampness to the more important diseases like malaria, dysentery, consumption, etc., has been pointed out, and we might have included pneumonia, rheumatism, neuralgia, and many other diseases in which dampness constitutes a predisposing factor.

We have learned the necessity of excluding the ground-air from our houses by cementing the basements; and as

the dampness of the soil not only affects the atmosphere, but, by capillary attraction, extends to our houses the necessity for rendering the walls damp-proof, by a course of slates imbedded in cement above the level of the ground, is obvious. These are matters more strictly belonging to the hygiene of habitations, and we will therefore consider the means at our command to render damp soils dry. The good effects of drainage have already been pointed out; this should be done wherever the moisture is excessive and another outlet for the water cannot be secured. In many localities surface-drainage appears to answer the purpose; but sub-drainage is of the greatest value in influencing the height of ground-water, which is carried off when the water rises to the level of the drains. Some localities have been rendered more salubrious by planting trees, which absorb a great amount of moisture and give it off in evaporation.

It has been estimated that an oak tree evaporates $8\frac{1}{2}$ times the rainfall, and the eucalyptus absorbs and evaporates eleven times the rainfall over the area it covers. This tree has been extensively planted in malarious districts with the effect of diminishing malaria. It is quite possible that, apart from its value in diminishing the moisture of the soil, the ethereal oil of eucalyptus being a germicide, may exert its properties on the microbe of malaria; but, on the whole, there is nothing like perfect drainage, especially in marshy soils, for it has been shown that vegetation alone is insufficient to render the Campagna di Roma salubrious.

Measures looking to the prevention of soil-pollution consist in the proper care and disposal of refuse, more especially the animal excrementitious matter, and the construction of proper sewage systems. Apart from this, much may be done in communities by pavements, grading and seeding of the soil in public places.

The effects of floods may be mitigated at least by promptly cleaning out the wells and springs, and the removal of surface deposits as far as this is possible. Under no circumstances should the water in overflowed districts be allowed to stagnate.

Distribution and Comparative Healthfulness of American Soils.—The most widespread soils in the United States are sandy soils, clayey soils, and loams. The *sandy soils* consist of about 75 per cent. of quartz-sand, and are generally the healthiest on account of their warmth and dryness, provided, however, they have not been subjected to soil-pollution, and are not kept damp by an underlying layer of clay or other impermeable strata.

(2) The *clayey soils* contain 75 per cent. or more of clay, [alumina silicates], and are objectionable for building sites, because they are usually cold, wet, and impermeable, unless the surface affords good drainage, or the site is sub-drained. The *loamy soils* are sub-divided into sandy or clayey loams, according as one or the other of these constituents predominates. The clayey loams should be avoided, and whilst clean dry sandy loams are usually healthful, they may, like the sandy soils, present similar objections.

In addition to the soils referred to, we find the following less frequent: The *stony* or *gravelly soils*, which are quite local in distribution, and generally very desirable for building sites, on account of their warmth and dryness. The *calcareous soils* are loams or sands impregnated with 5 to 50 per cent. of carbonate of lime, and occur only in limestone or marble districts. Apart from the hardness of the water, which in itself is not injurious, the soil is generally regarded as salubrious. *Magnesian soils* result from the disintegration of serpentines, talcose, or other magnesian rocks—they are porous soils, and usually healthy; the magnesian salts in the water supply are objectionable, but these soils are quite uncommon in this country. The *highly ferruginous soils* are very local, and overlie deposits of log iron ore. Malarial diseases have been attributed to their proximity, but Dr. Britton has heard no such complaints in this country. The *mud* and *peat soils* are confined to low grounds or mountain valleys, which afford no outlet for the surface water; they are essentially marsh soils, consisting of loams or clays saturated with water and charged with vegetable matter to the extent of 50 per cent. and over. Whilst peat soils are non-

malarial, they should be avoided. The soils of *humus* and *mold* result from abundant vegetation in comparatively dry localities, and are the natural soil of forests and former prairies covered with grasses and herbs, and rarely extend beyond a foot in depth.

Soils are either *indigenous* or *transported*; in the latter instance, they have been brought by glacial action or the forces of water from other localities, and may have nothing in common with the underlying rocks.

The soils of *glacial drift* consist of deposits of clay, sand, gravel, and boulders, which have been brought from the north in icebergs during the glacial epoch; sometimes there are signs of stratification, but generally there is an absence of structure. The surface of glacial drifts is usually irregular and affords good drainage, but at times an excess of clay renders them less desirable for building sites unless properly drained. Along the southern margin of this drift, on the Atlantic Coast, the surface conformation of the "terminal moraine" is such as to favor the formation of swamps and stagnant ponds in hollows, often surrounded by much higher grounds, although many feet above tide-level. In such instances, proper drainage affords the only remedy.

The drifts in some localities present a well-marked stratified structure; this may have been the result of direct glacial action, but more often the clay, sand, and gravel, were deposited from the currents of water and lakes which accompanied the melting of the glaciers. When these drifts are mostly composed of sand and gravel, the soil, on account of its porosity, decline of surface, and freedom from organic matter, is very salubrious, but an excess of clay renders them suspicious. The so-called yellow drift is found extending in patches from the southern coast of New England over nearly the whole of Long Island; thence southerly, composing nearly all of the soils of Southern New Jersey, Delaware, Eastern Virginia, and in patches along the coast of Florida. Much of this territory is covered by pine forests, and the majority of our seashore and health resorts are situated in this belt, which owes its salubrity to the sandy

and gravelly nature of the soil. These yellow drift deposits are believed to have been made before the glacial drifts, at a time when a large part of Eastern North America was still submerged.

Alluvial deposits are the result of the action of water in depositing the silt held in suspension, and when only slightly elevated above the level of the stream usually contain a dangerous amount of organic matter. River terraces are produced by a stream cutting through such deposits to gain a lower level, and by these the ancient course of a stream may often be traced. Lake terraces generally indicate the former levels of the water; the highest benches are always preferable for building sites, but the river terraces contain generally more or less clay. Marsh soils are often found in deltas the result of river deposits; but for reasons already given, indigenous soils may become swampy; they are found almost in all sections, but most frequently along the Gulf and the Coast of the Atlantic; the largest in the United States are the Dismal Swamp of Virginia, and the Everglades in Florida. Brackish swamps are commonly called salt-meadows. There are very few peat deposits in the United States, but they are quite frequent in Newfoundland, Great Britain, and Germany; the non malarious character of peat soils has been justly attributed by Dr. Britton to the antiseptic action of organic acids contained therein.

The *marine alluvium* forming our salt-meadows, though not malarial, are objectionable, on account of their dampness and liability to overflow. A large portion of the far West is covered by alkaline plains. The soil is generally a light loam, sometimes clayey or sandy, containing very little organic matter, but an excess of sulphates, carbonates, or chlorides of soda, potash, magnesia, and lime. These salts render the waters intensely purgative and dyspeptic, and renal affections are quite common. The soils are otherwise healthy, provided no pollution has taken place; the clouds of alkaline dust are very objectionable, and catarrhal diseases and eye-troubles are frequently seen. The soils predominate in Idaho, Utah, Wyoming, Nevada, Arizona, and

New Mexico; the great basin or arid region formerly covered with an inland sea, and of which the great Salt Lake and a number of smaller alkaline lakes still remain. At present, this section is only sparsely settled on account of the scarcity of water; all of the arable land near the mouth of canons, and along the mountain streams, has been taken up, however. My observation in this section teaches me that the well water is almost unfit for domestic purposes, but the springs and artesian wells furnish a supply of good quality.

The *seashore sands* are too well known for their salubrity to require further comment. Reference has already been made to the objections of so-called "*made ground*," and we need hardly repeat that deep lots should never be made the dumping-ground of waste matter and rubbish mingled with dirt, nor is it necessary to insist that a swampy place cannot be made dry by a deposit of even good soil. Whilst proper grading is very desirable in the construction of streets and the preparation of building sites, the depressions should never be filled up until they are thoroughly drained, and then only with pure soil.

Having briefly considered the general characteristics of soil which have been *transported* to their present resting-places by the forces of nature or the hand of man, reference should be made to the *indigenous* soils, so-called, because they result from the disintegration of the local rock formations. These soils predominate in the non-glaciated parts of the country, where they form most of the superficial accumulations, also wherever the glacial drift is thin or wanting. A heavy deposit of this drift naturally obstructs the action of the elements upon the indigenous rock formation. To this class of soils belong those derived from granite, gneiss, trap, porphyry, and feldspathic rocks generally, yielding either stiff or loose clays or loams. A true sandy soil is rarely produced from such rocks, and they are not specially salubrious unless rendered so by perfect natural surface-drainage.

These soils are found in patches on the eastern slope of

the Appalachian range, especially in Western New Jersey southward; they are generally found in hilly or mountainous regions—in certain parts of the Rocky Mountains, the Sierras, and other western ranges.

The soils derived from *slates or shales* are often clayey, and therefore objectionable, unless the strata are sufficiently tilted. Such soils are freely met with along the southern and middle portions of the Appalachian range, in the Southern and Central States, and in the far West. The salubrity of *sandy soils* has already been pointed out, and this is especially the case when the sandy loams have been formed by the disintegration of the rock, and therefore less contaminated with other alluvial deposits. These soils are very common in the United States south of the glacial drift. The soils derived from indigenous limestone and marble are also quite common in this country, and have already been referred to.

[For further details, see Parke's Hygiene, American Additions, from which the foregoing has been condensed.]

Examination of the Soil.—A complete sanitary investigation should include the following points, viz:

(1) The configuration of the locality, height above the sea level, angle of declivity, facilities for natural drainage, water-sheds and courses, covering of soil by trees, brushwood, and grasses.

(2) Geological formation, dip and character of strata, especially in reference to their permeability.

(3) Examination into the size of the fragments or grains composing the soil is readily conducted by means of graduated sieves and a low power of the microscope.

(4) The porosity of the soil is usually determined by taking a liter of kiln-dried soil and ascertain how much water is taken up. The water must be added until air-bubbles cease to form. This is a simple, but not the most exact method.

(5) The *moisture* of the soil is determined by weighing a certain quantity; it is then exposed to a temperature of 220°

until dry, and weighed again; the difference is water or some volatile substance.

(6) *The capacity of the soil for holding water* is ascertained by thoroughly wetting a certain quantity previously weighed, drain off the water, and weigh again. This is not a precise method.

(7) *Measurement of the Ground-Water.*—The height of the water-level in wells is the best indication of the height of the ground-water. Pettenkoffer uses a rod for shallow wells and a cord for deep wells, to which are attached a number of little cups, which are let down into the well and drawn up again; the uppermost cup containing water, marks, of course, the height of the water, the length of this measure being known, the changing level of the well can be estimated to within one-half inch. Some precautions are necessary; for if a rope is used, it may stretch after prolonged use or during a hot wind, or shrink in wet weather, and thereby render the observations inaccurate, but not sufficiently so for practical purposes. It is best to use a rod in shallow wells, and the measurement should be made at a time when the supply has not been lowered by unusual consumption.

(8) *The ground air* is examined by sinking a shaft about sixteen feet deep, into which are placed lead pipes in 1½ feet, three feet, seven feet, nine feet, and fifteen feet lengths, and one-half inch in diameter. The soil is put back as nearly as possible into the original levels. The lead pipes are connected with an aspirator by means of rubber-tubing, and the aspirated air is examined for the determination of oxygen, carbonic acid, ammonia, hydrogen sulphide, and organic matter. The movements of the ground-air are determined by differential manometers.

(9) *Soil-pollution* is determined by a chemical analysis for the estimation of nitrogen and carbon. A simple way to ascertain the percentage of volatile matter is to take ten grammes of dried pulverized soil, incinerate at a red heat, recarbonate with carbonic acid solution or ammonia carbonate; heat again to expel excess of ammonia and weigh.

The loss represents the amount of organic matter. The permanganate process is also applicable.

(10) The *micro-organisms* of the soil are best determined by using a borer invented by Fränkel, and constructed on the principle of a butter-tester. This borer must be sterilized, and can be inserted to any desired depth. Upon withdrawal of the instrument, Fränkel measures off, by means of a sterilized platinum spoon, a given quantity of the soil, and places it in a nutrient gelatine-culture tube, and shakes the mixture well. A small quantity of this is placed on glass plates under a damp glass air-chamber; and after the formation of the colonies, they are counted and isolated in the usual manner. The platinum measures hold about two grains of soil, as a larger amount would render the culture experiment very difficult and confusing because of the number of micro-organisms present.

(11) *The temperature of the soil* can be readily determined at any desired depth by placing a self-registering thermometer, properly protected, in a "drive well point joint."

ART. VI.—The Conservative Treatment of Cancer of Uterus.*

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I hope the members of this Society will pardon my taxing their time and attention to an almost threadbare subject—cancer of the uterus. But for me it has the intensest interest, though this paper be lacking that attribute, and my excuse for presenting it is the very great proportion of cancer patients, either referred by brother physicians, or coming direct to us, who are doomed by delay. Probably in not more than five or six per cent. of cancer cases coming under our observation is an attempt to cure justifiable. The

* Read before the Medical and Surgical Society of the District of Columbia, April 9th, 1894.

report of Columbia Hospital for the fiscal year ending June 30, 1893, shows that, apart from the dispensary, fifteen cases of carcinoma uteri were in the hospital; and on how many of these fifteen patients was radical treatment employed? On just one—a rate of six and two-thirds ($6\frac{2}{3}$) per cent.

This is a very striking picture; and considered in conjunction with the fact that every case of cancer of the uterus is at first operable, if not curable, emphasizes strongly the necessity of early discovery of this disease. I shall have occasion to again refer to this necessity.

Of all the "ills that flesh is heir to," probably none is more fearful than this same cancer in its different forms. Certainly none is more disastrous in its results if allowed to progress for a certain amount of time unmolested.

The frequency of cancer of the uterus is perhaps greater than we realize. Schröder and Martin state that three per cent. of the cases they saw in hospitals were cancer; and other authorities state that thirty-one per cent. of cancer in women is of the uterus.

Its fearful mortality has led to wide and continued study and experimentation in search of a remedy, short of the knife, which may be relied upon as a cure for this malady. Quite a number of secret nostrums have been heralded about as sure cures. Many remedies, such as condurango, have attracted the attention of the medical profession as almost sure cures. By the application of caustics and "cancer plasters," many quacks have made themselves wealthy at the expense of unfortunate, misguided people, suffering from real or imaginary cancer. Some of these sufferers have died shortly afterward; others have resorted to surgical assistance, with results satisfactory or otherwise, according to the delay following the first appearance of the disease.

Nor is this all. Others have been obliged to resort to the same treatment for relief from the suffering incident to severe cicatrices resulting from the work of caustics and plasters upon benign growths, being driven to the surgeon for his assistance. Some of the worst cicatrices I ever saw were

caused in this way, and I have been obliged to operate for their removal on account of intense pain.

At present, Europe is interested in the injections of aniline preparations for this disease. The effect of this treatment is thought, by a few continental writers, to be encouraging, though not many cures have been claimed for it. So far as I am informed, this treatment seems to be more applicable to cases advanced beyond surgical aid—at least its use has been in such cases. It seems to retard the progress of the new growth and render it less painful. I must admit that I am extremely skeptical of its salutary action and fear it is another condurango history.

No remedy has yet been found that can compare at all favorably with surgical treatment, either as a radical operation for cure or for the removal of as much as possible of the diseased structures.

I do not believe that cancer is incurable at all times, and in all stages, and that it is constitutional. On the contrary, I think it is originally a local disease, which is removable if the animal economy will permit the removal of the part affected.

It is only of recent years that actual radical surgery has been, to any extent, applied to cancer of the uterus, although many different surgical procedures have been performed for this trouble, and were considered really radical. Most writers of twenty-five years ago wrote of the use of caustics, the cautery, curettement, amputation of the portio vaginalis, high amputation of the cervix, and of amputation and cautery or caustic combined. The literature of forty years ago refers to hysterectomy as having been done some years before for cancer of the uterus. This shows that hysterectomy was done considerably about sixty years ago, but gradually became unpopular and was surgically dead, although Freund scientifically established it in 1838.

Nearly all physicians know that most cases of cancer that come to them for relief have been neglected until for pain, offensive discharge, or other concomitant symptom, they

consult their family physician, who realizes they are victims of fatal delay.

The anatomical relations of the uterus are such that the disease under consideration may pass readily to an impregnable position. If we will but review these relations, we will better understand why a case may change in a few days to an inoperable condition—considered from the standpoint of cure.

The uterus is suspended in the pelvis mainly by the lateral or broad ligaments, which are liberally supplied with blood-vessels and lymphatics. Through this ligament running downward, forward, and inward, on either side, is the ureter, which passes just back of and below the uterine artery and accompanying veins. The Fallopian tubes and ovaries are in or connected with these ligaments, and are frequent channels for extension of the disease under consideration. Often cancer extends to the Fallopian tube—perhaps to the ovary—rendering them heavy from new tissue formed. In consequence, they prolapse and adhere to the wall of the pelvis, intestine, vermiform appendix, or other structure. I have a number of times found this in autopsies and surgical operations on cancer cases. Immediately in front of the uterus is the bladder, and near it, posteriorly, the rectum, which often becomes involved early in cancer. Then below these the vaginal walls are directly continuous with the cervix uteri.

We can now easily understand the boundaries of the successful surgical field for uterine cancer. We must have sufficient normal broad ligament to the inner side of the ureter to hold ligatures or forceps, or injury to that organ results, with, probably, backing up of urine to the extent of necessitating nephrectomy, or leakage of urine on the field of operation; we must have a posterior bladder-wall free from the disease, or vesical resection will be called for; the rectum, if involved, will require resection, and if the vaginal wall be involved, it, too, must, to a greater or less extent, be removed. If the disease extends beyond the ovary, along

the broad ligament or pelvic wall, our patient is in a hopeless condition. I believe no case can be cured in which cancer, originating in the uterus, has spread to other structures, unless it be merely to the Fallopian tube. I do not think cancer that involves ureter, vagina, bladder, rectum, or other tissues adjacent to the uterus, can be entirely relieved.

Treatment.—My ideas of the treatment of cancer of the uterus are not original, although my experience has contributed largely to their development. Other gynæcologists have submitted gracefully to the deductions reached by the treatment of cancer cases. I have reached the conclusion that the conservative treatment of this highly fatal disease is not the let-alone policy or palliative procedure in recent cases, nor is it the attempt at removal in cases that have gone beyond the life-lines. It is, however, the undelayed attempt at extirpation before the disease has passed beyond the border-land, the palliative operation in some other cases that are beyond absolute relief, and the palliative application in still another class of cases, of antiseptics, anodynes, deodorants, etc. We may reasonably hope for cure of cancer in the uterus if early extirpation be resorted to, but in the incurable condition our objects are to make the sufferer as comfortable as we can, and to prolong her life as much as possible. One patient suffering from cancer in an advanced stage suffers most from pain; another from exhaustion; another from the discharges, and yet another from the knowledge of her condition. It goes without saying that here, as elsewhere in medicine, relief from such troublesome elements should be attempted, and is a part of true conservative treatment.

In former years, ideas of radical operations were different from those of to-day. Then high amputation of the cervix was considered a very severe and radical operation. The literature was well filled with reports of cures by such radical operations as curetting and cauterizing. Now we do not for a moment consider these procedures more than palliative, and are almost useless in cancer cases, except as a pre-

liminary step to more radical operations. The histories of these cases have been that recurrence and death were almost sure to follow these slight operations. We have also noted that nearly all cases of cancer coming to our attention have passed beyond the danger-line and are positively incurable. In fact, we could not but see that cases promising any hope of cure by operation are extremely rare.

To bring almost all cases into this more favorable class, it has been suggested that women older than thirty-five years of age, particularly those who have had children and lacerated cervixes, be periodically inspected, in order that, should cancer begin it might be radically treated in its incipency. When it becomes the custom for women to present themselves, at stated intervals, to competent physicians for such inspection, then will we be practicing conservatism in a fine sense. Until such time, we can do no better than at present. Early cases are seen only by chance.

Many physicians at the present time treat the early cases by such minor means as amputation of the portio-vaginalis with or without cauterization, and by other like palliative measures; but I trust the time is not far distant when all incipient cases will be treated by hysterectomy—either abdominal, or vaginal, or the combined method.

The early history of hysterectomy for uterine cancer may not be devoid of interest. It is something of a fairy tale. In 1600, Schenk, of Grafenburg, collated twenty-six cases of total extirpation of the uterus "in necrotic and gangrenous prolapse." These women afterward menstruated, conceived and gave birth, so that they were not hysterectomies."*

Wrisberg, in 1787, and Monteggia, first proposed vaginal hysterectomy for cancer of the uterus;† but Marschall (1783) and Langenbeck (1813) first removed uteri for cancer, though in both cases the uteri were prolapsed and the diagnosis very doubtful. According to Malgaigne,‡ Gutberlat, in 1814, recommended the following method of abdominal

* Hegar and Kaltenbeck, Am. ed., II, 15. † *Ibid.*

‡ J. F. Malgaigne, *Operative Surgery*. Trans. by Fred'k Brittan, Phila. 1851. P. 552.

hysterectomy, which was executed by Langenbeck in 1825: "Having incised the linea alba from the symphysis pubis to two inches below the umbilicus, and opened the peritoneum, he seized the womb with his left hand, an assistant keeping back intestines and bladder; introduced a pair of long scissors closed, cut the broad ligament on the right side, almost entirely detached the womb, drew it out from the abdomen, and destroyed its last connection with the bistoury." The operation only occupied seven minutes.

Malgaigne further says that this procedure, which is easy enough, is simpler than that of Gutberlat, who had a special instrument for fixing the uterine neck; and particularly than that of Delpech (1830), who would have the womb previously separated from the bladder through the vagina.

In 1838, Freund raised abdominal hysterectomy to a scientific basis. Various modern operators have devised instruments for the same purpose as that of Gutberlat. Hegar and Kaltenbeck describe his instrument as follows: "Another assistant passes a hollow instrument, shaped like a saucer, into the vagina in such a way that the portio-vaginalis is received into the cavity of the instrument, and the connections of the uterus with adjoining parts are stretched." The method recommended by Delpech is now becoming a favorite for cancer.

Vaginal hysterectomy *in situ* for cancer was done first by Sauter in Germany in 1822, by Blundell in England in 1828, and in France by Recamier in 1829. Blundell's case lived one year. Malgaigne says: "Sauter's proceeding" is performed as follows: "The bladder having been carefully emptied, the index and middle fingers of the left hand are introduced into the vagina; a scalpel is then passed along these fingers, and made to gently incise the vagina on the uterus on the side next the bladder. The cellular connections are gradually dissected, and the peritoneum is then opened. Then the broad ligaments are divided; the womb hooked down by its fundus, is anteverted downward and forward, and drawn out of the vulva; then its posterior attachments are completely divided. If the intestines pro-

trude, an assistant retains them, and they are reduced after the operation. No ligature is applied, the loss of blood being inconsiderable. An operation of this kind performed by Seibold, occupied but fifteen minutes; but it is usually longer."

Various modifications were then made, such as lateral incision of the vagina by Seibold, or, at its posterior side, to retrovert the uterus, or circularly. Langenbeck and Ligars divided the fourchette and perineum to afford more space. Recamier's method, which Hegar and Kaltenbeck claim to be much more perfect, was distinguished from that of Sauter by the fact that, after opening the anterior peritoneal fossa, the upper two-thirds of the broad ligament alone were removed, but the lower third and uterine artery were grasped between the index finger and thumb and ligated. The hæmorrhage was very slight, and the ligatures were removed on the third day.

Billroth, Czerney, and Schröder, afterward performed the Sauter-Recamier operation with such success as to give it precedence over the abdominal method,

Malgaigne (*loc. cit.*) describes as follows the method of M. Dubled, known as extirpation by dissection, without opening the peritoneum: "Imagined by Sauter, who, however, could not apply it on the living subject, it was performed by M. Dubled in the following manner: 'The neck of the uterus being seized and brought to the vulva with a Museux's forceps, the vagina is separated from the uterus in front and behind with the bistoury and fingers; the inferior third of the broad ligament is inclosed in a ligature, and they are then cut near the uterus; then the uterus is more forcibly brought down, being now only retained by the peritoneum at its fundus, and all the diseased portion removed with the bistoury, the healthy parts being left.'"

Langenbeck's old operation of enucleation from its peritoneal covering has been repeatedly performed (Hegar and Kaltenbeck). I particularly mention this method of procedure, as well as Langenbeck's operation of 1825, to show, as Dr. Reyburn (*Med. News*, Phila., 1894, LXIV, 223,) has also

shown, the piracy of one Dr. Pratt, of Chicago, who claims to have devised a *new* method of vaginal hysterectomy.

Each of these methods of hysterectomy has its special field, the enucleation (Pratt) method being especially easy and safe. But in the cure of cancer, I do not think there is any place whatever for it. The enucleation of Langenbeck and Dubled has, as one particular feature, the removal of as much of the lower third of broad ligament as possible without injury to the ureter, while Pratt removes absolutely none of the broad ligament, making the circular incision *into* and not *around* the cervix. The only class of cancer cases in which it could possibly be employed as a radical operation would be incipient invasion of the corporeal endometrium, and I cannot, even in that condition, consider it the elective operation. Malgaigne asked of it, How can we be sure that all the diseased part has been removed?

In performing hysterectomy for cancer, we should remove as much of the broad ligament as possible, a liberal amount of the vagina and the Fallopian tubes and ovaries if practicable.

As to abdominal hysterectomy, extirpation per vaginam, and removal by the plan suggested by Delpech, I will merely mention, in a general way, their advantages. The abdominal method is preferable when the uterus is considerably enlarged, or if there be inflammatory adhesions about the body of it; if the vagina be very narrow, or if two or more of these conditions be present.

The vaginal method is best if the uterus be small and movable; the vagina large, and particularly if its wall be involved. If the mobility of the uterus be slight, and the vaginal wall involved, the vagina small, and the uterus large, the combined method should be selected.

Hysterectomy for cancer is not accompanied by a high mortality rate, and recurrence of the disease will rapidly lessen in frequency if family physicians familiarize themselves with early cancer of the uterus, and endeavor to educate their patients to the necessity for examinations for such conditions.

It more frequently happens that our patient is beyond curability when we first discover the disease, and we must treat them accordingly. The conservatism here consists in such treatment as will postpone the end as far as possible, and make them as comfortable as possible. In those cases, good nourishment and stimulants, as needed in individual cases; the application of the curette, followed by the thermo-cautery, or galvano-cautery, or by chloride of zinc solution, will be usually beneficial. Good air and cheerful friends; opium, if needed for pain incident to the disease or to the cautery, will usually prove beneficial.

In 1890, Dr. Wm. Goodell, of Philadelphia, suggested to me the use of a powder for advanced cancer of the cervix that I have since often used very pleasantly. It consists of equal parts of pepsin and salicylic acid. Its *modus operandi*, according to Goodell, is destruction of cancer tissue (digestion) by pepsin, and the prevention of putrefaction by salicylic acid. The use of antiseptic and deodorizing douches and gauze-packing will often be needed.

Even in hopeless cases, a vaginal hysterectomy, if it can be easily done, will stay, for a considerable time, the progress of the disease, and often seems to lift a heavy tax, at least temporarily, from the general condition of the patient. We have reached a plane in scientific surgery, particularly in hysterectomy, that very much lessens the death-rate, and we have found repeatedly that the minor operations do not eradicate cancer. As much tissue surrounding the uterus as possible must be removed in order to give the patient the greatest prospect of cure.

In all cases in which uterine cancer can be eradicated, I would emphatically say that hysterectomy should be done, believing that conserving life rather than uterine tissue is true conservatism. After eradicability of the disease has passed, then conservatism is in the direction of attempting to secure an extension of life and comfort to our patient. Frequently, in my services at Columbia Hospital and Providence Hospital, I have at once under treatment two, three or four cases of incurable cancer of the uterus; and one can-

not fail to be deeply impressed by such poor unfortunates, who have unknowingly passed from a condition of health to one that can offer no hope of recovery.

I wish to urge upon the gentlemen here the importance of early diagnosis of cancer of the uterus, and of its prerequisite—the education of the public (as before mentioned) to the necessity of regular inspection. I also desire to emphasize the fact that hysterectomy is the conservative measure always in early cancer, and often in more advanced cases.

1404 H Street.

ART. VII.—Clinical Lecture on Hernia.*

By W. B. DE GARMO, M. D., of New York, N. Y.

ONE OF THE PROFESSORS OF SURGERY, NEW YORK POST-GRADUATE MEDICAL SCHOOL
AND HOSPITAL, ETC.

Gentlemen,—Before I show you the new cases, I will show you some that have recently been operated upon.

CASE I.—This man, J. S., age 28, had hernia eight years, and was operated upon March 10th. There was a large mass of omentum in the scrotum, and it had grown fast to the bottom of the sac. The omental mass was removed, the sac cut off flush with the peritoneal surface, and the canal closed according to the method of Bassini. He had tried trusses, but could not wear them.

Such cases should be watched after operation for recurrence, and at the first indication of return a light truss should be put on.

This man is wearing a Canton flannel bandage and a perineal strap to hold it in place. To detect signs of recurrence, examine the upper part of the canal. In this man, it is perfectly flat and in good condition. I have told him to wear this bandage from three to six months. It is much easier to wear than any truss.

If there is no indication of recurrence during the first six months, we are quite sure of a permanent cure.

* Delivered before the Class of the New York Post-Graduate Medical School and Hospital, April 12th, 1894.

CASE II.—This man, G. T., age 21, was operated on a week ago Saturday for reducible complete inguinal hernia. Bassini's operation was done.

The great advantage in that operation is in clearing everything out of the canal. The canal is left in normal condition.

In this man, on the cord there were pieces of fat as large as the end of the little finger, and it is more than likely that those were the cause of the hernia. The wound was perfectly healed on the ninth day. There are in the deep parts back of the cord three sutures of kangaroo tendon. The aponeurosis of the external oblique is closed above the cord by silk worm gut sutures, and the skin by cat-gut.

I shall let him get on his feet the first of next week. If a patient is up in two weeks, I am well satisfied. Discharged on eighteenth day.

CASE III.—The man, J. N., age 50, with large irreducible scrotal hernia, from whom you saw me remove an enormous mass of omentum three weeks ago, went home on the eighteenth day. There were eighteen silk sutures in the stump of omentum returned to the abdominal cavity.

As most of you know, it is my rule to use silk in amputating omentum, and to tie each vessel separately, and the fat in small sections. This obviates all danger of secondary hæmorrhage, and allows the stump to spread out naturally when returned.

CASE IV.—This little girl, Annie McC., was operated on two weeks ago Tuesday. She had a femoral hernia, which is unusual in a child ten years of age; and what was still more unusual, it was irreducible, with a piece of omentum grown fast to the sac. The sac and omentum were cut away, and stitches of silk worm gut were taken, depressing Poupart's ligament, thereby closing the femoral canal. She is all right, and there has been no pain. She has on a Canton flannel bandage, which is better than a roller bandage, as it is firm, and gives support where it is wanted. She will leave the hospital on the twentieth day after the operation.

CASE V.—I operated on this man, G. J., age 37, for irreducible femoral hernia, of seven years' duration, two weeks ago to-day. This kind of hernia is unusual in men. Seven years ago it was reducible, and he tried to wear a truss, but

could not, and the result was an irreducible femoral hernia. The union is perfect. The femoral canal is closed with silk worm gut sutures through Poupart's ligament, and deep fascia towards the median line. Here, as in the previous case, the sac was dissected out and the omentum cut off.

When I began the treatment of hernia, the mortality was fifteen per cent. in operations on cases of this kind. Now it is less than one per cent. We can well afford to recommend this operation to our patients, as the chances of permanent cure are over ninety per cent., and the danger almost *nil*.

CASE VI.—This boy, three years old, has umbilical hernia.

Under one year of age, you can treat these cases with a compress and adhesive straps. Make a compress by rolling up absorbent cotton, surrounded by rubber plaster, sticky side out, hold in place by narrow strips of plaster going two-thirds around the body. Change once every month, and you will obtain a cure. In patients over one year of age, this is not a good method, and I shall put on this boy a hard rubber umbilical spring, which he will probably have to wear eighteen months. Hard rubber and celluloid are somewhat harder to fit than leather-covered springs, but are far more satisfactory, in that they are more durable and cleanly.

CASE VII.—This child comes back for inspection. As a child grows, the pad is drawn out of place, and the fitting must be corrected. This child has double inguinal hernia. Children should be seen once a month for a year. In this child, the hernia is congenital, the sac being thickened down to the testicle.

It will probably take two years to cure it. It is possible that this child may have to have an operation, as there is such a thickening of the tunica vaginalis. Bassini's operation would be good in this case.

CASE VIII.—A year ago in February, this man had an operation for hernia, and there is recurrence, and trouble to retain the hernia with a truss. He has had a "Hood" truss on, and I shall put on a hard rubber cross-body truss and hope to keep the protruding parts in place. He wore a truss immediately after the operation, and it is a question

whether harm was not done by that treatment. I think a flannel bandage better. I do not know what form of operation was done in this case, as it was performed at another institution.

CASE IX.—This man, twenty-two years old, noticed a week ago a swelling in the groin. There is no pain. The swelling is outside the external ring. It can be pressed up into the canal. It might be a cyst of the cord. If it were, you would feel it at the internal ring when he is recumbent, and you cannot do so in this case. There is a long canal, and the external ring is not large. He stands a fifty per cent. chance of being cured by a truss if worn for two years. The cause in this case was jumping.

Always find out the cause. If from a strain, the chance of cure is better than if it came on from a relaxed muscular condition. In measuring for a truss, pass the tape midway between the crest of the ilium and the great trochanter. In this man, the measure is thirty-four inches. Take a piece of lead-tape one-sixteenth inch thick and one-half inch wide, with one end on the hernia, and pass across the abdomen over the hip of the sound side. Lay the tape on paper, and trace and turn it over to complete the pattern. It gives a fairly accurate diagram of the shape of the pelvis, and is an excellent guide in shaping the spring.

CASE X.—This man, forty-seven years old, has had this rupture six months. Still, from examination, we know it was congenital. It comes down inside the tunica vaginalis, which has remained open all these years. This man will not be cured by a truss, because of his age and owing to the hernia being congenital. He would do better to have an operation.

The reduction of this hernia is difficult, and in this connection I wish to say that if a hernia is strangulated, it is poor policy to press up and back upon the tumor. If you push up, you push the tumor on to the abdominal wall, but do little towards reducing it through the canal. Pull the hernia down, and take in the hand, compressing it as you would a rubber ball, and you will feel it go back under the other hand, which should be over the canal. In other words, elongate the neck of the tumor by pulling the whole mass down, and reduce by *compression*.

In this man, after the hernia is reduced, there remains a mass of thickened tissue belonging to the tunica vaginalis. There will be trouble in holding the hernia by means of a truss. When the intestine comes down, there is pain for three or four hours, due to the crowding down, but this passes away as he becomes used to the pressure. He has a hydrocele on the other side that is not growing to any great extent. It is better to let a hydrocele alone when small, unless you intend to operate for a radical cure. If an ounce or two of fluid is removed, it will begin to grow more rapidly. In putting on a truss in this case, the pressure is made lower than usual with the pad over the external ring. We may be able to hold the hernia with a strong truss.

CASE XI.—This man, fifty-five years old, ought to have an operation. He is wearing a cross-body hard rubber truss with fairly strong pressure.

I used to keep account of the amount of pressure worn. Few wear over three pounds, but I have known nine pounds to be worn without discomfort.

This patient has covered the hard rubber spring. I think it is a mistake, as hard rubber next to the body is better than any covering. There is an enormous mass in the scrotum, and the intestine is undergoing a change.

It is all right as long as the bowel is in good condition, and there is good peristalsis, but after a while pressure will cause paralysis and intestinal obstruction. If, then, it is returned to the abdomen, there will be obstruction later. Try, by every means, to keep it in the abdominal cavity. If you fail, there should be an early operation. The contents of this hernia are intestine and omentum, principally intestine. It has not the solid feeling of omentum. The abdomen will not hold all this mass, and it will come back even when the patient is lying down. The pad used is a grooved pad, designed by the late Dr. Riggs to compress the canal on each side without compressing the cord. The omentum is like a wedge, and makes the difficulty of retention in this man's case.

We will follow this man closely and see what we can do; and if the hernia is not held by the truss, will impress upon him the importance of having an operation.

ART. VIII.—Treatment of Crushes of Hands and Feet.*

By M. W. O'BRIEN, M. D., of Alexandria, Va.,

SURGEON CHESAPEAKE AND OHIO, AND RICHMOND AND DANVILLE RAILWAYS, ETC.

Crushes of the fingers and thumb are very common injuries in the railroad surgeon's experience. Crushes of the entire hand, often of the wrist, are frequently seen. These injuries vary in degree, of course, but my reason for presenting this short paper is to call attention to that class of injury where the soft parts are "jellied," and the bones more or less comminuted. Before antiseptic methods were used, almost all these cases suffered amputation, or the case developed pus or tetanus, or accumulations of pus formed in the hand, extending up the sheaths of the tendons; abscesses formed in the forearm, and, in many, general systemic infection resulted.

I have many cases of this sort in a year and cut off nothing—making a good hand or finger or thumb or wrist-joint, simply because I give them much care and treat them on a common sense basis. I do not think a hand crushed in the bumpers can be made surgically clean by any immediate washing or soaking in even the best hot antiseptic washes, so that a dry dressing can be put on as usually described and all go well. I have tried it many times with every care, and have had pus and fever and chill, so that the dressing had to come off and another course inaugurated.

The following case is one of many seen by me (and all of us) in the course of a year:

H., brakeman, æt. 23, while holding up the link to make a coupling, his hand was caught up to wrist in the bumpers and crushed; when seen by me the hand was black and greasy and dirty—the third, fourth and fifth metacarpal bones were comminuted, the hand burst open in the back and palm, the thumb phalangette crushed, the little finger

* This paper was prepared to be read before the National Association of Railway Surgeons during its session in May, 1894, in Galveston, Tex., but as the author found, at the last moment, that he could not attend, this journal has been favored with it.

destroyed, and the whole hand and wrist more or less "jellied." It looked as though I should save it; so after prolonged washing and soaking in sublimate water, I gave ether and found it necessary to remove the little finger and fifth metacarpal bone, which was done by incision down the outer side of the hand. After again thoroughly using hot sublimate water, I put on a "fluffy" iodoform gauze dressing, enveloped the entire hand and forearm in sublimate cotton, over this a dry sublimate towel, and thought all would be well. There was no oozing on the sixth day, but there came a chill, a temperature of 105° , delirium and restlessness. I opened the dressing, found the hand hot and swollen, a little pus, and the arm swollen to the elbow. After thorough irrigation with hot sublimate water, I simply enveloped the member in absorbent cotton, had a pint of hot (1 to 4000) sublimate solution, slowly poured on it giving quinine, changing the cotton every morning, and every hour, milk and stimulants, with a little morphine at night. I saw the fever go and all soon right itself, with a good and useful hand.

This is only one instance of many.

In these crushes, the wet dressing is the one to use—is comfortable, easy to apply, acts as a sublimate hot water poultice, and will save a member sure if there is any chance whatever.

The dry dressing is stiff, is apt to get soaked with the discharge, which makes it unyielding and painful; and if there is fever in the part, has no effect on it for good.

So the hot sublimate water dressing in crushes about the extremities, used as above indicated, is, in my opinion, the ideal dressing, and has saved many hands and feet in my care that, with any other line of treatment, would have come off at the point of selection.

In dressing a hand or foot in this way, first thoroughly wash and steam it with hot sublimate water (1 to 2,000); then, if any part is to be removed, trim it off and envelop the whole injured member in plenty of absorbent cotton, holding it in place by wrapping it with ordinary sewing cotton; put the part at rest comfortably on a sheet of rubber to carry the solution into a convenient receptacle, and assiduously soak it, at regular intervals, with 1 to 4000

sublimatè water as hot as can be borne. By this means fever disappears, the circulation is coaxed into damaged tissues, granulations spring up, and the part is restored—this, too, without changing the line of local treatment except in degree.

There is one other fact in my experience in these injuries I think worthy of note. I have seen only one case of tetanus result out of a total of several hundred cases in the last ten years. This looks to me as though tetanus was exceedingly rare among injured railway men, though I confess I do not see why it should be when all things are considered in connection with these cases.

No. 116 N. Washington Street.

Clinical Reports.

Case of Dorso-Lumbar Spondylitis—Value of Jury-Mast.

By WM. J. CRITTENDEN, M. D., Unionville, Va.

The use of the plaster-of-Paris jacket in the treatment of spondylitis, as inaugurated by Professor Lewis A. Sayre, of New York city, was first used by him as a temporary appliance. Such success attended its application that he used it extensively in his practice. In his work on Orthopedic Surgery he states that in the upper dorsal and cervical regions a jury-mast should be used. The late Prof. S. D. Gross said it should be used in all cases, when the disease was above the sacrum. I simply wish to report one case of spondylitis, exemplifying the use of the jury-mast in the dorso-lumbar articulation.

During the early part of October, 1892, I was called to see Miss C., age 14, suffering with colicky pains in the abdomen, irritation of the bladder, constipation of the bowels, and tenderness over the ovaries, menses irregular. These several diseased conditions received appropriate treatment with only transitory success. On November 20th, after a close examination, I was satisfied that I had diagnosed a

case of dorso-lumbar spondylitis. On November 25th Dr. C. C. Conway concurred in the diagnosis. On December 3d, we suspended her and applied a plaster-of-Paris jacket, with only partial success. On December 8th, we again suspended her and applied a jury-mast, with most gratifying results. She was now able to get up and walk without any pain or inconvenience. December 15th she began to suffer so much pain that I removed the jacket, and found a large abscess over the diseased vertebræ. I lanced this and treated it. In ten days, we re-applied the jacket and jury-mast, cutting a fenestra in the jacket and introducing a drainage tube. The improvement became marked from this time. As she grew the jacket became too small. I cut it down the centre and laced it up like a corset. At times she would become tired of having her head attached to a jury-mast. I would then place her on a hard mattress, and make extension, both from head and feet, by means of weights attached to head-piece and ankle bands by cords, passing over pulleys at head and foot of bed respectively. On April 1, 1893, my patient had improved greatly, pain relieved, but had become exceedingly hysterical. On April 18, 1893, I took her to a noted surgeon in Washington, D. C., who advised that she be placed on a hard mattress for three (3) months. I then took her to the Johns Hopkins Hospital. Prof. Halstead examined her and pronounced a cure from spondylitis—advised electricity, friction, tonics, and daily exercise in the open air. At this writing, May 1, 1894, my patient is entirely well.

My purpose in writing this article is to emphasize two points:

- (1). The use of the jury-mast in this situation.
- (2). The distal nerve effects in the early stages of spondylitis, long before their manifestation at the seat of trouble.

NEW HAVEN, CONN., March 17, 1894

DIOS CHEMICAL Co, St. Louis,—I have used Neurosine in a case of sleeplessness, and obtained results certainly the best I ever had in so short a time. The patient, an aged man, had suffered for many years. It has also relieved his irritableness of temper. THOS. CEIL, M. D.

Correspondence.

The Discoverer of Modern Surgical Anæsthesia.—“Once More to the Breach.”

“Truth, crushed to earth, shall rise again;
The eternal years of God are hers.”

My Dear Dr. Edwards,—Previous to the last letter of Dr. Grandy on the “Discoverer and Discovery of Anæsthesia,” in your journal for March, in a personal note to me you were kind enough to say that Dr. Grandy would close the discussion on anæsthesia. Accepting the delicate hint you gave, I remained silent, and would have offered no further reply to his very vulnerable rejoinder, which, instead of meeting my objections and salient points to his original paper, cleared the whole fabric with one bound, leaving me almost breathless and paralyzed.

In order not to do Dr. Grandy the slightest injustice, I here reproduce his crushing paragraph, “*verbatim et literatim* :”

“Some of the particular objections which Dr. Hayden makes to the leading points of my paper, I will pass over; those objections, feeble enough when stated, grow beautifully weaker as the author proceeds to elaborate them; their own weakness will be their own answer.”

A very summary way, my dear doctor, of disposing of an opponent’s argument, certainly, when one has no better way to overcome his obstacles! If Dr. Grandy is satisfied with so small an exit, I ought to be—and so we part the best of friends.

“There was a time when the brains were out the man would die, and there an end, but now they rise again;” and I must buckle on my armor to meet a phantom—a new champion for Dr. Long, and the shade of *Nitrous Oxide Gas*.

Dr. G. Q. Colton, of New York city, does not seem to think that Dr. Grandy has sufficiently annihilated me, and comes forth in the *Virginia Medical Monthly* for April to do battle in the cause of Dr. C. W. Long and Dr. Horace Wells. So I rise to a question of privilege, to make such poor and brief reply as my ability and your generous courtesy shall permit, with the promise to offend no more.

I am at a loss to know why Dr. Colton should couple the

name of Dr. Long and Dr. Wells together unless he wanted to have a hand in the fray, for Dr. Long and Dr. Wells were two very different men, and Dr. Wells never made any experiments or discoveries in etherization; and whatever he did do was not a success, as I will endeavor to show with the aid of Dr. Colton, before I close this reply.

Before going further, I will summarize the claim which Dr. Grandy makes for Dr. Long, as I do not propose to return to this discussion again, and wish to have the positions of all of your three correspondents understood.

Dr. Grandy claims that Dr. Crawford W. Long, a highly respected physician, of Jefferson, Georgia, in 1844 did make certain experiments in etherization, to induce insensibility to pain while under surgical operation, and that he did, at various times in that year, perform several minor surgical experiments successfully upon persons whose names are given and witnesses cited. To which I reply, that not one of the operations claimed to have been made by Dr. Long was a capital or hazardous operation; that all of the evidence was not correct; and the statements of all of the witnesses were not true. The report and the history of Dr. Long's cases, written by the eminent Dr. J. Marion Sims (upon whose authority and name much reliance was placed to make out the case), were not true, and Dr. Sims was imposed upon by Dr. Wilhite, as acknowledged by himself; that Dr. Wilhite also claimed to have etherized a negro boy to a complete state of anæsthesia in 1839, antedating Dr. Long in etherization four years.

It is evident that Dr. Long never had a serious thought of claiming the honor or the reward for the discovery of painless surgery, because he was not entitled to it. He wrote himself, after the brilliant demonstration of Dr. Morton, at the Massachusetts General Hospital, on the ever memorable sixteenth of October, 1846: "I had no opportunity of experimenting with ether in a capital operation—others more favorably situated engaged in similar experiments, and consequently *the publication of etherization did not bide my time.*"

Dr. Long was an honest man, and of himself would *never* have made a claim for a discovery which he did not *demonstrate*, and which he lost through his own procrastination and want of appreciation of the great occasion presented to him. Dr. Long was not the man to claim the fruits of another man's labors, who had made the grandest discovery ever recorded in science, without the slightest knowledge of

the labors and experiments of Dr. Long. No impartial scientific jury, with all the facts before them, would hesitate to give the honor, the reward, and the meed of praise, to William Thomas Green Morton, M. D.

Let it ever be remembered, and recorded on tablets of stone, that on the fifteenth day of October, 1846, etherization and painless surgery were unknown and undemonstrated on this great globe; on the sixteenth day of October, in the morning of that great day, William Thomas Green Morton, M. D., at the Massachusetts General Hospital, before a board of seven of the most eminent surgeons in this country, demonstrated, for the first time in the history of the world, painless surgery. Let no one rob him of his just due.

Dr. Colton claims second place, in the discovery of etherization, for Dr. Wells—not for anything he did with ether, excepting *one* failure, which he styles a success, but what he claims Dr. Wells did do with *Nitrous Oxide Gas*; and if he did not succeed any better with the latter than the former, it was a sorry failure indeed; but I will allow Dr. Colton to tell the story in his own eloquent words:

“There can be no doubt that to Dr. Crawford W. Long belongs the priority in the discovery of anæsthesia. This took place in 1842. Two years later—viz: on the 10th of December, 1844, Dr. Horace Wells, of Hartford, made the discovery of the anæsthetic effects of nitrous oxide gas. This discovery was made at my exhibition of the gas, and the next day Dr. Wells tested the truth of the discovery on himself by having a decayed molar extracted, for which I gave the gas. This was the first tooth ever drawn without pain. This discovery was entirely independent of any knowledge of Dr. Long’s operations, *for Dr. Long, at that time, had made no publication of his discovery.*”*

This admission on the part of Dr. Colton is a most important one if it be true; and if true, what part did Dr. Wells play in the discovery of etherization and painless surgery, as, from his own statement, Long’s discovery was an old story, and it is a two-edged sword, cutting two ways—against Dr. Long’s dilatoriness in publication and against Wells’ priority of discovery.

In a few weeks from this time, he (Wells) went to Boston to make his discovery known to the world. (Where was Long?)

“Among the many physicians and dentists on whom he

* The italics are mine.

called was his former pupil in dentistry, W. T. G. Morton. They all laughed at him, and pronounced his discovery a humbug. Dr. Wells returned to Hartford and resumed his practice in the extraction of teeth."

Dr. Colton says about the end of 1845 Dr. Wells went to Europe, and was absent about a year, traveling on the continent, but as he could not speak the language, he made no use of gas.

I would ask any reasonable man if it is to be wondered at that without knowledge, without the proper ability, without priority of discovery, and without success, he should have become discouraged and abandoned the field of research that he was so poorly equipped for?

There is a feeling of satisfaction to me that Dr. Colton's labors will serve a far better purpose than poor Dr. Wells' did, for he does bring the past before our vision, and he states some historical points which may prove of great service in the cause of truth and justice hereafter.

I trust, my dear Dr. Edwards, you will bear with me for the length of my paper, for Dr. Colton, while doing some good service, has said more than is good for his side of the question, which I want to record with comment.

Dr. Colton assumes to say that Dr. Morton, in order to mystify and deceive the public, called the substance "letheon" instead of ether, and actually got out a patent, which the United States Government granted. What a heinous crime in the handle to the jug.

Dr. Colton says that when Dr. Jackson found that some man's name was going down to posterity as a great discoverer, he claimed the honor because he suggested ether to Dr. Morton. All that Jackson ever did claim was a suggestion, and there is no proof that he ever made that, but on the contrary, that he did not.

Dr. Colton says: "When Dr. Wells returned from Europe in 1847, he was astonished to find that Dr. Morton had obtained a patent and claimed the honor of the discoverer of anæsthesia." If not Dr. Morton, after the facts which have been presented beyond controversy, certainly no one else is entitled—not the man who had travelled over Europe for a year, and because he could not speak French, had not ability enough to find in Paris some one who could—not the man who returned home to Hartford discouraged and disgusted because his friends had laughed at him in Boston, and called his discovery a humbug—not the man who claimed to have made just one experiment with ether

and gave up its employment in disgust, and was shocked that some other man had more nerve and ability for the work than himself; *only* one experiment with ether because he did not like the odor and the symptoms it manifested, and so he thought that the benign discovery of a more competent man, who had thrown his whole soul and energies into the great work, must lie down and die a failure.

Dr. Colton complains that Dr. Morton took out a patent for *letheon* with Dr. Jackson, and then bought out Jackson's part. Was there anything illegal or dishonorable in that transaction? If so, I fail to see it. He did not steal it from Dr. Wells or Dr. Long.

Dr. Colton is grieved at the harsh language I employed in regard to the criminal acts and death of Dr. Wells, and says: "A man who could write such about Dr. Wells must either be profoundly ignorant of the facts, or he must possess a great amount of prejudice; take which horn of the dilemma you please." My dear doctor, I shall not take either horn of your dilemma, but leave you to wrestle with the facts of the case, which I took from the report of his crime, arrest, and suicide, in a New York city prison, from the *New York Daily Herald* of Tuesday, January 25th, 1848. It was a very sad and deplorable case, and his friends have my profound sympathy; and if he was insane, he is entitled to the commiseration of all people who have hearts.

Dr. Colton says: "Dr. Wells had the reputation in Hartford of being a modest, amiable Christian gentleman." A man's acts may be one thing and his reputation another. We must judge him by the former. I did so, and was not his enemy.

I did not sneer at the good people of Hartford. I only expressed my surprise that so intelligent a people, under all the facts and circumstances of the case, could have erected in her public square a monument in honor of such a man, with no more to recommend him to the honor and gratitude of the people.

Dr. Colton says: "The city of Boston, the 'Hub' of the Universe, never appropriated one dollar to commemorate the name of Dr. Morton." The less to her credit, and the more to the man who honored her above all others.

In the next paragraph, Dr. Colton tells us "that Thomas Lee, a friend of Dr. Morton, left ten thousand dollars in his will to erect a monument to the memory of the discoverer of the *anæsthetic effects of ether*. The monument was erected, but Boston declined to put Dr. Morton's name on it; and Dr.

Shurtleff, the mayor, on receiving the monument at the unveiling, never so much as mentioned the name of Dr. Morton, a significant fact. *The wealthy friends of Dr. Jackson were present.*"*

I do not know Dr. Shurtleff's reasons—a member of the medical profession—for aiming so marked an insult at Dr. Morton. It certainly was *very significant*. In a great city of so high a reputation, where the great discoverer had first demonstrated, before a board of the most eminent surgeons in this country, the first capital operation under anæsthesia in the world—a board of surgeons who had unanimously endorsed the success of his great blessing to man, and gave him a silver box containing one thousand dollars as an acknowledgment of their appreciation; and where prominent citizens had erected a monument over his grave in Mount Auburn. The time will come when the "Hub" will vie with any other city in the world in honoring William Thomas Green Morton, M. D.

In Dr. Colton's next paragraph, he manifests a generous impulse, and says: "Dr. Morton deserves credit for having pushed the use of ether in the Massachusetts General Hospital, but this does not relieve him from the charge of endeavoring to steal the name of the discovery of anæsthesia from Dr. Wells (steal is a hard word, but no other tells the truth)."

Dr. Colton seems to have had some special animosity against Dr. Morton, or he would never, at this late day, ventured to have started the following canard: "I was in Washington at the time Dr. Morton's bill was under discussion, and I heard a member of Congress say that a few evenings previous he and many other members were invited to a champagne and oyster supper. They did not know who gave it. At the close, however, they were introduced to Dr. Morton as the generous giver. Did Dr. Morton think he could influence (I don't say bribe) members of Congress to vote for his bill by giving them a champagne and oyster supper?" Dr. Colton, you will pardon me for saying that I do not believe your intellectuality is so contracted that you believe the insignificant and more than contemptible slander had any truth whatever in it, and I marvel that the man who talks about my sneering at the good people of Hartford on matters of history should not hesitate to insult the Senate of the United States by even intimating that they could be bought for a champagne and oyster supper.

* The italics are mine.

As confirmatory of my statements in regard to the failure of Dr. Wells with nitrous oxide gas, I present the following letter from Dr. Wells' own hand, and one from the eminent surgeon, Prof. William H. Van Buren, of the University of New York:

“HARTFORD, CONN., Oct. 20, 1846.

DR. MORTON:

Dear Sir,—Your letter dated yesterday is just received, and I hasten to answer it, for fear you will adopt a method in disposing of your rights which will defeat your object. Before you make any arrangements whatever, I wish to see you. I think I will be in Boston the first of the week—probably Monday night. If the operation of administering the gas is not attended with too much trouble, and will produce the effect you state, it will undoubtedly be a fortune to you, provided it is rightly managed. Yours in haste,
H. WELLS.”

Dr. Wells did not seem to think, when he wrote that letter to Dr. Morton, that he was writing to a *thief*.

The following letter hardly endorses Dr. Wells' success:

“NEW YORK, October 1, 1858.

“I recollect distinctly having been present in the operating theatre of the New York Hospital in 1847, to witness the operation by the late Dr. John Kearney Rodgers. Dr. Horace Wells was present, and administered the gas to the patient, with the object of producing insensibility to pain of the operation, but the attempt was unsuccessful, as the patient seemed to suffer about as much pain as might have been anticipated under ordinary circumstances. A large number of surgeons and physicians were present—among whom was Dr. Valentine Mott and other prominent members of the profession. As the supply of the supposed anæsthetic agent was apparently ample, judging from the large size of the bags containing it, and its administration conducted fairly and fully, the general impression upon the spectators seemed to me to be decidedly unfavorable as to its power of producing insensibility to pain.

WM. H. VAN BUREN, M. D.”

In closing this long letter, I am curious to ask several questions of Dr. Colton for information. First. If Mr. Lee left ten thousand dollars for a monument to the memory of Dr. Morton, why was not his name placed upon it? Why

did Dr. Shurtleff, being mayor of the *whole* city of Boston, leave off of the monument the name of the man who, on *that day*, demonstrated anæsthesia?

Did Dr. Jackson's friends have anything to do with the omission?

Had not Dr. Morton made the discovery of anæsthesia, the pain of Dr. Jackson's dying hours would not have been alleviated by etherization.

With great respect, I am,

Your obliged friend,

W. R. HAYDEN, M. D.

Bedford Springs, Mass., May 1st, 1894.

A Politico-Social Disease

Mr. Editor,—While the master of the household is silent, the mistress of it is an absentee from wifely duties. The mothers of the home wear the paint and feathers of the brave, and go to the skirmish line in political battle. They call upon Kentucky chivalry for the defense, not of their own purity and virtue, but for the lack of it in one not of their kith and kind. They have assembled in Convention, and proved, by a dissective post-mortem of the crime, that they are handling a subject whose virus is inoculable, and, to a high degree, contagious and infectious by personal contact and investigation. Where modesty, simplicity and beauty reside, no scar of vaccination will be found, the ear having been stopped to maudlin sympathy, pro and con. Where womanly duty has been forgot, the profile of modern Magdalen is tattooed over the heart for all time to come. The blush for its presence is most hurtful and conspicuous, when the housewife returns to the tea-table for relief and reflection from the arduous duty of outlining perverted statesmanship. A snake found upon the roadside in winter—frozen, inanimate, and apparently dead—regains vitality upon a warm hearthstone. As its Creator had given it a poisonous tongue, it had been better for the safety of the household to have shown no sympathy for his snakeship at all.

If a love is a love of a father, mother, sister, brother; if a love is a love of a husband, wife, or as pure as the love of a God; then the story of the hero and heroine is fit for rehearsal at the family altar. But if it is a love with the poison of passion, having jealousy, intrigue, liaison in ac-

companiment, then is it a love-song for womanhood, for the church choir?

Just now the mothers of fair daughters, pained at the hurt to one of their sex, give both a public and private negation to a partisan demand of "no flowers" at the funeral. Just such mothers being the life of the Church, their husband's contributions the sinews, along the line follows divine sanction to a circus advertisement of a sinner's fall. The ministerial protestations are pertinent and well understood. No one of their flock has succeeded so well, since the cloak of the great New York divine was shown to be of all wool, notwithstanding wolfish suspicions and insinuations. Since a fuller definition of "perverted love" has been given under the sanction of the law—preacher, doctor, lawyer, laymen—all whose position might be misunderstood, have formulated a catechetical criticism of illicit relation overflowing with experiences of "love's young dream."

The court-room has been a pest-house without a flag of quarantine restriction. From the legal incubator, the bacilli of moral disease have been taken and scattered broadcast, everywhere finding a welcome soil for self-culture and propagation. They were dispensed in great and small type to an eager public, unwashed of their pollution and harm. They found a nourishing pabulum in the brain of the feminine and effeminate.

The feminine are victims to either an over-zealous moral persuasion, or to the secret influence of the side sinless, because untried, as opposed to the side of the sinner, proved sinful. The effeminate have a vacant stare at individuality, and aim to as close a communion with womankind as their sex will allow.

Such is the etiology of this contagious epidemic of a new moral disease. The treatment of it is taken to the Great Physician, who prescribes: "Judge not, that ye be not judged."

CLEON C. OWENS, A. M., M. D.

Maysville, Ky., May 19th, 1894.

Safety in Anæsthesia—A Man is not a Fish.

Mr. Editor,—So far this spring I have not seen a death from chloroform reported in any of the medical journals. Whether or not this is due to the safe lesson of the Trendelenberg posture, I cannot say.

The writer has attempted to show that the probability is that most deaths from anæsthesia occur during the spring time. (*Journal Amer. Med. Association*, May 28, 1892.)

I write this note more particularly in the interest of Northern humanity.

In "*An American Text-Book of Gynæcology*, Phila., 1894," is this sentence: "In the administration of ether, the pure vapor, unadulterated with air, should be given." This may be adapted to the hurry of the times, but it is unscientific, dangerous and cruel. The pure vapor of ether contains the same amount of oxygen as pure water contains. In fact, in this connection, the word ether, like the word artery, is an ancient misnomer.

THOS. R. EVANS, M. D.

Burlington, Iowa, May 14, 1894.

INTERNATIONAL MEDICAL CONGRESS IN ROME.

Mr. Editor,—On the 2nd of April, at 14 o'clock (for the Italians still use the old Roman custom of counting the hours), Dr. Max Nitze, in the sitting-room of the German committee at the polyclinic, gave a very instructive and valuable lecture on the various uses of the cystoscope in diagnosis, together with his cystoscope and how to use the same; this was well attended.

At 15 o'clock, different sections adjourned to Eldorado to listen to Nothnagel, of Vienna, on "*Modifications of the Organisms in Consequence of Pathological Alterations*." He said, among other things: Darwin's researches in the field of natural science were followed by mighty changes in every branch of intellectual life. The fundamental conceptions which he expressed reached the furthestmost limits of human wisdom, acquired by inductive researches. From this point of view, we must consider two of the most marvelous phenomena of nature—adaptation and compensation—by which the organism is enabled to withstand and overcome injuries inflicted by pathological changes. Many instances were mentioned, such as collateral circulation after ligating an artery; muscular hypertrophy of heart due to defective circulation caused by disease of valves; in chronic cirrhosis of one lung the other respiratory surface is augmented; if

one pneumogastric nerve be cut the other presides over the action of the heart, etc. The cause of this compensation and adaptation is found in the increase of stimulus, which is followed by a corresponding specific hyperactivity, but this functional compensation is only possible when adequate stimuli act on the tissues of equal function, without which condition adaptation cannot take place. Compensation in pathological cases is not brought about by necessity, and no fixed rule presides over their development, which can have either a beneficial or an injurious effect on the organism. The first, as a rule, being the case, we, therefore, recognize in the process of compensation, a necessity of nature depending from those inevitable laws that rule over all biological phenomena.

Next, S. Laache, of Christiana, of Norway, spoke on *Idiopathic Hypertrophy of Heart, and Degeneration of the Heart-Muscle*.

At this same session, Prof. Michael Foster, of Cambridge, spoke on *Organization in Science as an Aid to Scientific Results*, which lecture was well received, and considered the equal, if not the best lecture delivered in the General Sessions. He pointed out that the salient points of an organized creature were *differentiation* on the one hand, and *integration* on the other. The members of its body all work together for the common good. In the body politic, the same thing occurred. *Integration* was carried out by the unwritten customs or by the enacted laws and regulations. The workers in science all the world over formed such a body. *Differentiation* had gone far. There was a time when one man could push forward by himself several sciences. Now each one has to be content to devote himself to a single science, or even to a small portion of that science. Differentiation, in this respect, must go still further. Regarding integration of science, it seemed that the great International Congress, at which so many nations were gathered together, especially a Congress of Medicine, which is the mother of all the sciences, might be a fitting body, and that this eternal City of Rome, within the bosom of the seven hills, once the central knot, at which were tied the cords of organization, might be a fitting place for putting forward the question, if there were not difficulties, which required to be overcome by integration, among the workers in science. Surely, it was possible for human wit to invent some ties which would bind together the workers in science for their common good.

Organization might be applied to enquiry itself, and also to the circumstances affecting it, the means by which it was to be accomplished. There were the two kinds of enquiry the *individual* and the *combined*. He did not underrate the danger of organized enquiry in selecting the wrong men. An enquirer, like a poet, was born, not made, and there might be a certain amount of tyranny in exercising the machinery of an organization, which might destroy individual enquiry. It might interfere with the motives which sustained such an enquiry. There was the motive of ambition, the love of fame; there was also the love of curiosity. Organization, however, would prevent men from going over the same ground, and guide young workers who did not know where to begin. The publication of crude material appeared to Prof. Foster as sewage contamination, defiling the pure stream of science. He concluded by urging that if organization were a good thing, nations should join together and carry it forward, and it would undoubtedly follow, as water flows downward, that good would result from it. The great initial expenditure would soon be overcome, and would be compensated for by the great advantage which would accrue to medical science if an international organization could be brought about. Individual ambition would then give way to the love of truth, which was the only safe guide so far as the work of science was concerned.

In the evening, at 16 o'clock, there was a reception at the Quirinal, of Sabine fame; and at 21 o'clock, there was an archæological walk in places of interest, and illumination of Palestine.

On the 3rd instant, the Central Committee of the Italian Red Cross, equipped and exhibited a section of twelve carriages (communicating with each other) of the hospital train, showing the manœuvres of loading and unloading the stretchers from the hospital train, together with many appliances for the comfort of the wounded.

Danalewsky, of St. Petersburg, Bizzozero, of Turin, and Kocher, of Rome, delivered addresses at Eldorado that day. Prof. Ferrier gave a demonstration in the Section of Psychiatry and Neurology of "Consecutive Degenerations, Injuries of the Brain, and of its Pediculi, in the Monkey." The French members of Congress at Sala Dante gave a luncheon in honor of Professor Bouchard, President of the French delegation. The reception by King Humbert and Queen Marghereta, at the Capital, was a grand affair. No one

was admitted without evening dress; those who failed to take that outfit along were not admitted. The Capitalien Museum was thrown open to visitors.

On the fourth, Dr. Antonio Fortunato showed his tracheotome action on laryngology, and Dr. Schuppan, at Hall of Public Health, his apparatus for the filtration and sterilization of milk.

At General Session, Dr. Jacobi, of New York, delivered an address, "Non Nocere."

April 5th was the day of the last general meeting. This session was well attended, and a considerable tilt took place between Spain and Russia as to the honor of having the next Congress in their respective borders; Russia was, however, decided as having the greater claim, and Prof. Baccili consoled Spain by assuring them that in all probability their fond land would secure the next Congress after the one to be held in Russia.

At twelve, lunch was served, at the Thermæ of Caracalla, to Congressists and ladies. These baths (now in ruins) contain 150,000 square yards, and accommodated 1,600 bathers at once. There was the Tepidarium, Celidarium and Frizadarium, conversation and drawing-rooms and athletic rooms and library.

At 16 o'clock, the illumination of the Platea Archæologica took place, and were considered as the closing exercise.

These Congresses should have some general language to be spoken, either Greek or Latin; then more good might emanate from them; but this is hardly to be looked for.

Many were highly pleased; others regarded the whole affair as a "money-making" scheme. However, it must be admitted that many things could have been better arranged.

C. G. CANNADAY, M. D.

Roanoke, Va., May 21st, 1894.

DENVER, COL., April 11, 1894.

DIOS CHEMICAL CO., St. Louis,—I have used Sennine in a large variety of cases, and in all of them it has given the very best of results. I have given almost all the new anti-septics a trial, but have never found any of them to be as serviceable as Sennine.

C. B. LYMAN, M. D.,
Ass't Surg. U. P. System.

Proceedings of Societies, Boards, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting held April 9th, 1894. Dr. Llewellyn Eliot, Secretary.

Dr. Bovée read a paper on

The Conservative Treatment of Cancer of the Uterus. (See page 256). Under call for discussion—

Dr. Reyburn said he agreed with Dr. Bovée with one exception. In many cases of cancer confined to the cervix, enucleation is the best operation. Has a patient at present who he thinks has cancer, but cannot obtain an examination. As to what operation we should do in cancer cases, he disagrees with Dr. Bovée. Where the disease extends up into the body of the uterus, we should take out the whole uterus by vaginal hysterectomy or abdominal section. In Langenbeck's method, we use scissors, and peel and cut, drawing the uterus down at the same time, until the uterus is enucleated. When the disease is limited to the cervix, this operation is a good one, and there should be no hæmorrhage or mortality at all, in proper cases. The hæmorrhage, should there be any, is of little consequence. We should educate women to the necessity of early examination, and thus prevent the extension of the disease. Where it is necessary, the uterine artery can be tied. This operation is not fitted for all cases.

Dr. Stone said the paper was a good *resumé* of the subject. To the surgeon, things are conservative that do not appear so to the physician; considers an operation conservative only as it conserves life. Tried to practice the operation as recommended by Dr. Reyburn, but found it hard indeed. He tried enucleation on a woman thirty years of age, as the woman would die if left alone; there was much bleeding and blood continued to ooze. She died on the day following the operation. Has never seen good follow local applications. Thinks there are two methods in inoperable cases—one, the galvano-cautery; the other, the chloride of zinc. In hopeless cases we can pack the uterus with chloride of zinc, and thus take out almost the entire uterus, to a mere shell. Related a case in point that had been so treated with benefit. The packing is left for four days; the discharge almost ceases and the patient improves generally. Referred to the work of Dr. Byrne as honest

and painstaking, but for himself he found the galvano-cautery more painful than the chloride of zinc, but the removal of tissue was extensive, next to the knife.

Dr. Carr said he agreed entirely with Dr. Bovée as to the necessity of a radical operation; we must not delay a day. When the vagina and other organs are extensively involved we must make our patient comfortable with morphia. It is difficult to determine when cases are inoperable. Cited a case where the uterus and a great part of the vagina were removed. There was no return of the disease. Usually where the vagina is involved, the case is hopeless, and it is certainly so when either the bladder or rectum is involved in the disease. In private practice hæmorrhage is not frequent. Spoke of numerous cases where there was no hæmorrhage as a symptom. In cases that are inoperable, he gives morphia in progressively increasing doses, as high as sixteen grains daily. Gives vaginal douches as only local treatment. He cited the case of an old woman with extensive cancer of the uterus, who grew fat on morphia. An examination made six months later showed undoubted cancer. Where there is no hæmorrhage he would not resort to chloride of zinc or the galvano-cautery. Does not consider the operation of enucleation a good one, from the fear of leaving foci of the disease; nor should the mortality be lower than that of vaginal hysterectomy. In the latter we expose the peritoneum, but the vessels and lymphatics are not open for absorption.

Dr. Sothoron said, from a medical standpoint, he would prefer the operation of enucleation. Had witnessed Dr. Reyburn's operation, and bore testimony to the readiness with which enucleation could be performed and the freedom from hæmorrhage.

Dr. Scott said he thinks the surgeons have found a bugbear in carcinoma, and that they have not covered themselves with glory. He believes future progress rests more with physicians than with surgeons. No surgeon can remove all diseased tissue in advanced cases. Looks for progress in the use, in future days, of some substance for inoculation, as in tuberculosis. Surgeons may speak of freedom from risks, but patients do die. Statistics that we get do not amount to anything in the absence of careful microscopical examination and report. All malignant tumors are classed by physicians generally as cancer. This is wrong. Some connective-tissue types of tumors simulate

appearances of carcinoma. Believes in operation where all disease can be removed; likewise in some cases simply for alleviation of symptoms of hæmorrhage and foul discharge. Inoperable cases should be made comfortable with morphia.

Dr. L. Eliot said he desired to present some statistical tables compiled from the mortality reports of the Health Office of the District of Columbia, covering the period from September 1, 1874, to June 30, 1892. Although there is no mention of operative measures having been employed, they will show the frequency of fatal cases, not only of cancer of the uterus, but of cancer of other organs. Space has been given for the color, the age, and the percentages:

Total number of deaths from all cancers.....	1,648
“ “ “ “ “ male....	473
“ “ “ “ “ female..	1,175
—	1,648
“ “ “ “ “ white...1,209	
“ “ “ “ “ colored.	439
—	1,648
Total deaths from cancer of breast.	245
“ “ “ “ uterus.....	448
“ “ “ “ ovary.....	23
“ “ “ “ stomach.....	295
“ “ “ “ liver.....	108
“ “ “ “ face, head, mouth,	
“ “ “ “ neck and throat...	174
“ “ “ “ all other cancers.....	355
—	1,648

Continuing the statistics with reference to deaths from cancer of the *uterus only*, we find:

Deaths among whites.....	302
Deaths among colored	146

As to social relation, we find—

Married white, 188; married colored, 72. Per cent. to total deaths from all causes in married white, 47; married colored, 40.

Widowed white, 95; widowed colored, 62. Per cent. to total deaths from all causes in widowed white, 32.28; widowed colored, 38.75.

Single white, 20; single colored, 13. Per cent. to total deaths from all causes in single white, 15.15; single colored, 34.21.

As to age, we find—	White.	Colored.
Deaths from cancer of the uterus under 20 years.....	1	.....
Deaths from cancer of the uterus from 20 to 30 years.....	4	8
Deaths from cancer of the uterus from 30 to 40 years.....	50	35
Deaths from cancer of the uterus from 40 to 50 years.....	94	34
Deaths from cancer of the uterus from 50 to 60 years.....	72	38
Deaths from cancer of the uterus from 60 to 70 years.....	53	15
Deaths from cancer of the uterus from 70 to 80 years.....	22	13
Deaths from cancer of the uterus 80 years and over.....	6	3
	<hr/> 302	<hr/> 146

As to nativity, we find—	
Cancer of the uterus: District of Columbia.....	79
All other parts of U. S.....	297
Ireland.....	31
England.....	12
Scotland.....	1
Germany.....	18
France.....	2
Italy.....	1
Other countries.....	30

— 471

The mortality percentages are—	
From cancer of uterus to all other deaths from cancer..	27.18
breast to all other deaths from cancer..	18.86
ovary to all other deaths from cancer..	1.41
stomach to all other deaths from cancer..	17.92
liver to all other deaths from cancer...	6.54
face, neck, head, mouth and throat to	
all other deaths from cancer.....	10.55
From all other cancers.....	21.50
Total deaths from all causes.....	84,316
Total deaths from all cancers..	1,648

This gives 1 death from all cancers to 51 deaths from all causes.

We see from these figures, based upon returns of deaths from physicians to the Health Office, that there were twice as many deaths from cancer of the uterus among white women as there were among colored women; there were twice as many married white women as there were widows, and nine times as many married as there were single women. The difference between married and widowed colored women was not great, being about one-seventh increase for married women, and the number among married women was less than six times greater than in single women. The greatest number of deaths among whites occurred between 40 and 50 years, while the greatest number among colored women occurred between 50 and 60 years of age. These figures are a little below the generally accepted mortality percentage.

Dr. Scott said he thinks little value can be attached to statistics taken from the country at large unless microscopical examinations had been made in the cases.

Dr. Chamberlin recited a case which he had seen while in Paris. The cervix was dilated. Soldering irons were heated to a red heat and introduced into the uterus, where they were allowed to remain a few seconds. The uterus was then washed out with water. This burning was repeated probably twenty-five times. The patient was benefited by the treatment.

Dr. Reyburn said he agreed with Dr. Scott, that we should look further to medical treatment. He has certainly seen benefit from the constitutional use of mercury and the local use of iodoform. Could not be positive of the benefits to be expected, but is sure that he has seen good results in some cases. Resort to the knife admits our failure with medicine. Knows of one case of epithelioma of the lip that was kept in abeyance by arsenic internally.

Dr. Bovée, in closing, said he did not think conservatism of tissue could be compared to conservatism of life. Pratt's operation is not a true hysterectomy. The operation is not applicable to large uteri on account of large arteries and the resulting hæmorrhage. When removing cancerous uteri, remove the appendages, if possible, and also the cellular tissue. Pratt's operation cannot be performed where the vagina is involved. In cases that cannot be relieved he would keep such information from them. Recited a case of cancer of the uterus where there was little progress of the disease in two years.

Book Notices.

Syphilis in the Innocent (Syphilis Insontium), Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. By L. DUNCAN BULKLEY, A. M., M. D., Physician to the New York Skin and Cancer Hospital, etc. New York. Bailey & Fairchild. 1894. Cloth. 8vo. Pp. 398-xiv. \$3.5).

The immense amount of research expended by the author in the ten years of preparation of this book is shown by the 178 pages of "synopsis of facts and literature" appended. This is "the essay to which the College of Physicians of Philadelphia in 1891 awarded the Alvarenza Prize, for the best memoir on any medical subject." It is well written, with so many details as to the accidental or unsuspected means of entrance of the syphilitic poison into the human system as to make the reader shudder almost with fear to utilize any article used by another whose exemption from syphilis is not known. As for the legal control of the disease, the author well sustains the recommendations—1. To make it criminal to transmit syphilis wittingly. 2. Examine men instead of women who cohabit unlawfully. Every doctor should read this book, which is neatly and cheaply issued by the publishers. It is full of exact data, well arranged for easy reference, while the synopsis method of the author serves as a ready reminder of the many ways by which the horrible disease may be communicated without illicit intercourse.

Clinical Diagnosis. By ALBERT ABRAMS, M. D., Professor of Pathology, Cooper Medical College, San Francisco, Cal., etc. *Third Edition. Revised and Enlarged. Illustrated.* New York: E. B. Treat, 1894. Cloth. Demi. 8vo. Pages 273. Price, \$2.75.

The first edition was published only four years ago; the second in 1892. The fact that this third edition has been so soon called for is proof of the popularity of the work. It is, indeed, a most valuable book to practitioners and teachers. It simplifies many of the technical methods of examinations, and keeps the student informed all the time as to the meaning of the signs and symptoms in given cases. We hope our readers will give this work on "Clinical Diagnosis" special consideration, for it is an excellent one for the clear recognition of a given disease. This book, wherever adopted and read, will do great good.

Text-Book on the Diseases of Women. By HENRY J. GARRIGUES, A. M., M. D., Professor of Obstetrics in N. Y. Post-Graduate Medical School and Hospital; Gynæcologist to St. Marks Hospital in New York city, etc., etc. *Containing 310 Engravings and Colored Plates* Philadelphia: W. B. Saunders. 1894. 8vo. Pp 690. Cloth, \$4; sheep, \$5.

This is in every respect a capital book for the surgeon, general practitioner, teacher, student. It is practical in every sphere of professional life—so far as relates to diseases of women. Its teachings are mostly the outcome of experience and careful observation of the practice and results of others where the author's own experience could not furnish a satisfactory guide. The research has been sufficient to bring to the front the valuable points of older authorities. One of its great values is that it is not surgery run mad; but details plans of treatment worthy of trial in those cases which should be treated before resorting to surgery. The chapters on the Development, Anatomy and Physiology of the female pelvic organs embrace the latest researches and discoveries, and, in fact, the entire work is in advance of other text-books on the subject—being fully up to the advances at the time of publication. The illustrations are profuse, exact and nicely published. In fact, the part of a careful publisher is manifest on every page. It is a work which commends itself to practitioners as soon as examined.

Discovery of Modern Anæsthesia By Whom was it Made?

By LAIRD W. NEVIUS, Specialist in Administration of Nitrous Oxide Gas for Minor Surgery, etc. Cooper Institute, New York, 1894. Published by Author. 8vo. Pp. 111. Cloth, \$1.00.

This neatly published book is issued with a picture 19x24 inches of the beautiful monument known as the "Ether Monument," erected in Boston by Thomas Lee, to commemorate the discovery of anæsthesia; but as the donor did not seem to know to whom the honor of discovery was due, no name was placed on the stone. Around the picture of the monument are the portraits of Drs. Long, Jackson, Wells, Morton, Colton and Riggs—the first three physicians and the other three dentists. Above the monument is the portrait of Sir James Y. Simpson, who is the discoverer of chloroform anæsthesia. The price of this picture alone is \$1.00, but when both the book and souvenir are ordered at the same time, the price is \$1.50. The design and drawings are both good. To return to the book, it

seems well entitled to its claim of being "a brief statement of facts." It presents uncontrovertibly that Dr. Crawford W. Long, of Athens, Ga., in 1842, discovered that under sulphuric ether, surgical operations were performed without pain; that Dr. Wm. T. G. Morton, of Boston, Mass., in 1846, publicly demonstrated that sulphuric ether is a comparatively safe anæsthetic; that Dr. Chas. T. Jackson, of Boston, may have spoken of the supposed anæsthetic value of ether in 1845 or 1846, but did not so use it until after Dr. Morton's experiments, although opportunities were numerous; that Dr. Horace Wells used nitrous oxide gas as an anæsthetic in 1844; that Dr. G. Q. Colton, of New York City, successfully administered the gas to Dr. Wells in 1844, allowing Dr. J. M. Riggs to extract his tooth without pain. Sir James Y. Simpson, of Edinburgh, discovered the anæsthetic virtues of chloroform. This book, with the papers published in the *Virginia Medical Monthly* by Drs. J. Marion Sims, L. B. Grandy, W. R. Hayden, and G. Q. Colton, bring together an interesting history, and leaves the subject just about as stated above.

American Text-Book of the Diseases of Children. By AMERICAN TEACHERS. Edited by LOUIS STARR, M. D., Physician to the Children's Hospital and Consulting Pediatrist to the Maternity Hospital, Philadelphia, etc. Assisted by THOMAS S. WESCOTT, M. D., Attending Physician to the Dispensary for Diseases of Children, Hospital of the University of Pennsylvania, etc. Philadelphia: W. B. Saunders, 1894. Imperial 8vo. Pages 1190, XIV. For sale by subscription only. Cloth, \$7.; Sheep, \$8.; half Russia, \$9.

To Mr. Saunders must be accorded the credit of publishing the best series of "American Text-books" of recent years. The work before us so nearly reaches the ideal, that it would be hard to find a point for criticism, were it not that, in its claim of being "American," not one of the entire list of sixty-three American authors, hails from any of the thirteen Southern States—including West Virginia, Kentucky and Tennessee, and of course Virginia and the States South of it. It is unfortunate that such sectional exclusion persists in the selection of *American* authors. But this Text-book is one of which Americans may well be proud. It includes special chapters on essential surgical subjects; on diseases of the eye, ear, nose and throat; of the skin, and on the diet, hygiene and general management of children. Besides numerous drawings, the subjects are illustrated by 28 full page well executed plates; and ready references are made

by the thoroughness of the Index, which covers three columns of 41 pages. It would occupy more space than our space would allow to undertake a special notice of any one subject. But open the book almost anywhere, and that chapter will be found to be so thoroughly prepared and presented as to make the reader feel that that is the best chapter. Each of the authors has studied to make the very latest and the best presentation of his subject, so as to satisfy every rightful demand of the practitioner. The busy doctor as well as he who has opportunities for library study, will lose a great help if he does not frequently consult this work.

Editorial.

New Pharmacy Law of Virginia—Important to Doctors who Conduct Pharmacies.

To the Medical Profession of Virginia,—The new pharmacy law, which goes into effect July 1st, requires that all physicians in business as druggists must register. At a recent meeting of the Board of Pharmacy, the following resolution was adopted:

“ *Whereas*, The pharmacy law, which takes effect July 1, 1894, requires that every one conducting a drug store shall be registered, and that to be a registered pharmacist he must pass an examination before the Board of Pharmacy;

And whereas, Under the present law, the Board of Pharmacy has the right to register physicians, without examination; therefore,

Resolved, That the Secretary be instructed to register all physicians conducting pharmacies, who may apply to him in proper form, upon the payment of the fee—\$5.”

Signed, E. R. BECKWITH,

Secretary Board of Pharmacy of Virginia.

Petersburg, Va., May 7th, 1894.

It is to be hoped that all physicians in this State to whom the above law is applicable will at once comply with the requirement of the resolution as above.

Dr. Emory Lamphear.

Has removed from Kansas City to St. Louis, Mo., to occupy the chair of Professor of Surgery in the St. Louis College of Physicians and Surgeons.

Special Meeting of the Medical Examining Board of Virginia.

Since the meeting held in Richmond during April—the results of which were reported in our May number—there have been so many applications for “Special Permits” to practice in Virginia, that the Medical Examining Board of Virginia has resolved to hold a Special Examining Session in the city of Lynchburg, Va., June 19th, 20th and 21st. The Examiners have been called to meet in a hall to be selected by the member resident in Lynchburg, Dr. J. W. Dillard, Tuesday night at 8 o’clock, June 19th, to arrange the questions for the various sections. The applicants for examination are to report promptly in the Examining Room at 8:30 A. M., Wednesday, June 20th, and are to conform to all the rules and regulations laid down for the regular Semi-Annual Sessions. This “Special Meeting” is held in compliance with requests from a number of graduates of those Colleges which did not hold their Commencement Exercises in time to present themselves for examination during the regular session of the Board in April last, and also to meet the wishes of those who may graduate this month from the University of Virginia. We learn that from forty to fifty applications for examinations have been reported to the Secretary of the Board, Dr. Benjamin Harrison, Richmond, Va. Dr. Rawley W. Martin, of Chatham, Va., is President of the Board. Applicants rejected during the April Session cannot, under the law, come up for re-examination during this Special Examination, but will have to wait until the regular Fall Session, to begin in Richmond, Va., October 23rd, 1894.

Medical College of Virginia—Professor elected.

During its session in May, the Board of Visitors of the Medical College of Virginia, elected Dr. John N. Upshur Professor of Practice of Medicine, to fill the vacancy occasioned by the resignation from the Faculty of Dr. M. L. James. Dr. Upshur brings to the chair the experience of several years as Professor of Materia Medica and Therapeutics in the same institution, and the reputation of a fluent speaker and an earnest teacher. During June, we understand his successor in the chair of Materia Medica and Therapeutics will be elected. Dr. J. Page Massie, who has been well acting Professor during the past session, was also elected Professor of Pathology and Bacteriology. The course of instruction in this College, beginning with the session next Fall, will cover a period of three sessions of six months each in three separate years.

University College of Medicine, Richmond, Va.

The fact that, notwithstanding the short time elapsing between the organization of this institution last summer and the commencement of the Session last October, there were over 120 Students matriculated—21 of whom hailed from seven other States than Virginia—was a surprise to the most sanguine projectors. Since the Catalogue was printed the promises of very much larger classes are so numerous as to compel the Faculty at a recent meeting to vote the expenditure of at least \$6,000 in the building of new lecture halls and the enlargement of some of those used last Session—all of which are to be ready for occupancy by the time the next Session begins—September 18th 1894. The experience of last year has also determined the Faculty to extend the Session to a term of seven months, and the order of lectures for each of the three years' graded course has been so arranged that Medical Students will have their hours after 7 P. M. for review of the lecture of the day, study of text-books, etc. Clinical material of every description is abundant, as shown by the record that over 3,000 patients were treated during the past six months Session in the Virginia Hospital, the University College Clinics, the Dispensaries under the control of the College, etc. The Faculty remains about the same, with Dr. Hunter McGuire, President and Professor of Clinical Surgery, etc.

Dr. Charles G. Cannaday, of Roanoke, Va.,

After an absence of some weeks attending the session of the International Medical Congress, held in Rome, during April, 1894, and visiting several of the important medical centres of Europe, has returned home to resume professional duties in private practice as well as in the "Rebekah Sanitarium," of which he is in charge. His letters about the "Congress," in the May and June numbers of this journal, are highly appreciated by our readers. Dr. Cannaday, as those who are acquainted with him know, is a progressive student and practitioner, an energetic man, and professional in his dealings with the practitioner. He is a valued Fellow of the Medical Society of Virginia.

Dr. George Bayles, of Orange, N. J.,

Has recently been elected (during its Eighty-Fourth Annual Session) Vice-President of the Essex District Medical Society. Our readers know him by the value of some of the papers he has contributed to this journal, and by the enviable position he holds in the esteem of his professional friends.

Correction.

In the report in our May number of those who passed satisfactory examinations before the Medical Examining Board of Virginia (page 202), Dr. G. B. Nuckolls should appear as a graduate of both the Baltimore Medical College and of the University College of Medicine, Richmond, Va. Hence, the third and fourth lines of the next page (203), naming the institutions represented by the applicants who have come before the Board since its organization, as also the third and eight lines of second table on page 204, naming the institutions represented by the applicants who appeared before the Board in April, 1894, should be so corrected as to let them show that Dr. Nuckolls is a graduate from both the Baltimore Medical College and the University College of Medicine, Richmond, Va.

Professor of Anatomy, etc., University of Virginia, to be elected.

During the meeting of the Board of Visitors of the University of Virginia in June, much interest will center upon their election of the successor of the renowned Anatomist, gifted teacher and popular Professor, Dr. Wm. B. Towles, who died just after the Session of the Medical Classes of 1893-94 had begun. Among the candidates, as we have heard of them, are several prominent and influential names. We presume that the demands lately made by certain National and State Examining and Licensing Boards as to Medical graduates will lead to some changes as to the number of sessions of attendance hereafter to be required of students, etc. As to its didactic course of medical instruction, no institution has been its superior.

National Association of Railway Surgeons.

The Seventh Annual Session was held in Galveston, Texas, May 8-11, 1894. The officers elect for the new year are: Dr. C. W. Thorn, of Toledo, Ohio, *President*; Dr. J. M. Dinneen, (elected Secretary) resigned, whereupon Dr. A. A. Thompson, of Waxahachie, Texas, was declared *Secretary* elect; Dr. Eugene R. Lewis, of Kansas City, Mo., *Treasurer*; Dr. J. Harvey Reed, of Columbus, Ohio, *Editor of the Journal of the Association*, to be established in a few weeks, and published by the *Railway Age* Publishing Company; *Chicago, Ill.*, was selected as the place for the Session of 1895. It was unfortunate that what appeared to be "a ring" so conducted their side of the elections as, at one time, to threaten the disruption of the Association.

The gentlemen elected are all excellent selections, and

no doubt will conduct the affairs of the Association in a most creditable manner. Indeed, a more worthy, able and energetic officer could not have been chosen than the President elect. But this does not warrant the "ring combination" in an honorable body of scientific gentlemen for the purpose of defaming its late officers, and thus bringing the Association to the level of a corrupt ward meeting. We are glad to believe that none of the officers elect, nor those deposed, had sympathy with such proceedings. At a critical moment, it was fortunate that ex-President, Dr. C. W. P. Brock, of Richmond, Va., was popular enough, and retained the confidence of all as an impartial adviser as to what was right and just, to gain the floor and command attention of the needlessly excited assemblage. So much time was lost in these unseemly proceedings during two of the meetings that many scientific papers of striking titles by able authors, announced for presentation, were not even read, and of course, discussions that would have resulted in profitable instruction, did not take place. The papers, however, that were read and discussed were all of a high order, full of instruction and suggestion.

Too much cannot be said in appreciation of the cordial receptions and generous hospitalities extended by the good doctors and citizens of Galveston to insure their guests a pleasant visit and to cause them to retain in memory the many attractions of their city.

Dr. J. M. Richmond, of St. Joseph, Mo.,

Was elected President of the Missouri State Medical Association during its session last month in Lebanon, Mo. He will be remembered as the able Surgeon of the Artillery Battalion, C. S. A., at Drewry's Bluff, Va., on James river, during the War. He has received many honors from the profession of his city and State since his removal to Missouri in 1865. He is also an Honorary Member of the Medical Society of West Virginia.

The Pennsylvania State Boards of Medical Examiners,

Was organized at Harrisburg Tuesday, April 3rd, 1894. The *Regular* Board, Dr. H. G. McCormick, Williamsport, President; Dr. W. S. Foster, Pittsburg, Secretary. *Homœopathic*, Dr. A. Kornderfer, Philadelphia, President; Dr. Isaac G. Smedley, Philadelphia, Secretary. *Eclectic*, Dr. H. P. Piper, Tyrone, President; Dr. H. H. Blake, Philadelphia Secretary. Subsequently a joint meeting of the Boards was held, and a series of questions arranged for submission to the Medical Council.

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Original Communications.

ART. I.—The Increase of Insanity in Virginia, and Practical Suggestions for the Care and Maintenance of Insane People by the State.

By JOHN S. APPERSON, M. D., of Marion, Va.

LATE SECRETARY BUILDING COMMITTEE, AND EX-ASSISTANT PHYSICIAN TO SOUTHWESTERN LUNATIC ASYLUM.

The readers of the *Virginia Medical Monthly* have been favored, during the last few years, with a goodly number of interesting and instructive articles on the subject of insanity. The writers, in the main, have been gentlemen of prominence, either as physicians to insane asylums or in the treatment of nervous diseases; and for the most part have confined their remarks to insanity as a pathological condition producing derangement of thought, feeling and action, and dependent upon or induced by inherited or acquired predispositions, susceptibilities or deviations from the normal, either somatic or incorporeal. While one writer gives a long list of recondite quotations with the intention of defining what insanity is, another groups and systemati-

cally classifies all of its different forms as they have fallen under the notice of scientific observers who have written on the subject since the days of Celsus; and he then states with emphasis that "*Medical science is not yet able to base a nosology of insanities on the highest pathological platform.*" While others have given well-timed and sensible advice with reference to the management and care of the different classes of cases as they occur to the physician, whether in private or hospital practice, none, however, have undertaken the discussion of the subject from the *standpoint of the political economist*, and in this way arrive at some practical conclusion as to what is best to be done in Virginia (and probably in some other States) for the proper care and maintenance of this large class of unfortunates, so many of whom look now to the State alone for everything necessary for their support.

Possibly not a large number of the physicians in the State may feel inclined to give the subject any considerable attention, still it involves so much that is essentially necessary for the well-being of both citizen and State, and so much that is linked indissolubly with our social and professional life that I have been constrained to write this article, trusting that it will receive some notice from the public, if nothing more indeed than the criticism of unbiased readers.

The first part of this subject to which I shall devote attention is the *rapid increase in the number of registered insane in the State.*

By reference to the published reports of the three asylums for white persons in Virginia (and these alone enter into the count for the State in this paper), it will be seen that since 1870, while the whole population of the State, white and colored, has increased 35 per cent., that of the insane asylums (admissions) show a gain of 136 per cent. exclusive of inmates at Central Asylum (colored), and also of those who have been supported by the State, but are either with their friends or in jails. If these should be added, it would swell the increase an additional 100 per cent.

This rapid disproportion of increase, though startling to the alienist and political economist—and should be to the legislator and taxpayer as well, because it fixes a fearful responsibility upon the State—is not greater in Virginia than in most of her sister States—in fact, it is much less than is the case in many of them. For instance, in the *Medical and Surgical Reporter* for January 23, 1893, we find a short article on this subject. It states that since 1873 the population of Rhode Island has gained 60 per cent., while that of her insane asylums has gained about 400 per cent. Iowa, increase of population for same period, 50 per cent.; for insane asylums, 300 per cent. Kansas, population 215 per cent.; insane over 600 per cent. In New York, the gain in population since 1873 is 40 per cent., but the insane for twenty years shows an increase of about 166 per cent. Ohio gives 36 per cent. for gain in population, and 170 per cent. for her insane. Illinois, wealthy and progressive as she is, while showing in twenty years an increment of 50 per cent. population, she presents 660 per cent. for her insane. These figures, as stated by the *Reporter*, may not be absolutely correct, but they show enough to establish the fact, beyond peradventure, that there is a mental condition of the human family, growing more prevalent year by year, and with no restrictions as to race or locality, where individual citizens are shown to be incapable of self-control or self-support, and hence become a tax upon the government and a charge upon its institutions, both public and private.

A close study of the tabulated statistics found in the reports of different asylums leads to the conclusion that this increase may not, after all, be as rapid as it seems to be; or, in other words, quite a large number of persons who are now inmates of our asylums in Virginia, and who are registered as insane, were not so regarded a few decades ago. During the year 1893, the three white asylums of Virginia admitted 303 patients, of which 45 per cent. are recorded as having been insane between one and thirty years. Many of these, no doubt, are re-admissions—representatives of a class who have no permanent abiding-place. They suffer

from attacks of recurrent mania or temporary aberration of mind. After admission and treatment in an asylum, they improve sufficiently to warrant their discharge as *recovered* or *improved*, as the case may be. After a time, they suffer another onset, and are sent back to the same or some other asylum to be treated again. The remainder of this 45 per cent. is made up, in a large measure, by men and women who are decrepit—worn out mentally and physically—and feeble-minded young people, who have little or no inhibitive power, and who, under the changes and vicissitudes incident to human life, show that they are not capable of taking care of themselves; and being without relatives or friends who are able or inclined to do it, and being always troublesome, they, too, fall as a natural inheritance to the State, and must be provided for in some way. Under proper direction, most of this latter class might be made reasonably useful citizens, more than self-supporting in fact, as they are in other States where there are training-schools for them, and where they are taught the value of rewarded labor.

Another good reason why this increase is not so rapid as it would seem to be, if we look no further than the list of admissions given us by the different asylums, is to be found in the fact that fifty, or even twenty years ago, institutions of this character were regarded with more or less distrust. There was, on the part of a large number of persons, a strong opposition to sending friends or relatives there to be treated. The worst cases alone were sent, and then, as a rule, only when there was no other alternative. This opposition has changed very much, so that there is very little or no shrinking at present. In truth, where there was objection formerly, there is readiness now; and therefore a great many cases are found in the different institutions at this time who some years ago would have been kept at home. By these different ways, we can readily account for an increase in admissions, but they do not prove that there is a proportionate increase in insanity. The relative disproportion, too, between the acute and chronic is likewise accounted for.

To the political economist, the legislator, and the taxpayer, however, so long as the State must provide for the support of both classes, and bear the burden of expenses, it makes no difference whatever whether the increase in admissions belongs to the violent or the harmless class. The main and all-important question is to know how the corresponding increase in the cost is to be met; how this "State Care" shall be extended to all the needy and dependent with no unjust discrimination or partiality, and yet indulge in no wasteful expenditure of its revenues.

For the year 1870, the appropriations for insane asylums in Virginia, made by the Legislature for support alone, amounted to \$120,000; in 1893, for same purpose, it reached the sum of \$346,797—an increase of 188 per cent. This does not include the income to insane asylums from pay patients' fund, from sale of condemned articles, and from proceeds of farm and garden, with which each asylum is supplied. We have, therefore, since 1870 an increase of 35 per cent. in population, over 136 per cent. in admissions to insane asylums, and 188 per cent. increase in the expense account for their support. If we add to this the 130 patients reported outside and awaiting admission at close of last fiscal year, and a proportionate increase equal to that of the last ten years, we shall have confronting us a demand, by the close of the present century (six years), of at least half million dollars annually for the support of our indigent insane population alone, or about one-sixth of our entire revenue from taxation, even if there should be no falling off in this respect; and it is quite probable that unless new sources of revenue are discovered there will be a decline for the next year or two at least.

These figures and this line of thought have suggested another inquiry: *To find out, if possible, what particular department in the institutions erected and equipped for the care and treatment of insane people, requires the largest outlay of money, and a comparison with similar institutions of other States.*

After some labor, and with the aid of a few reports of

asylums, I have been able to compile the following tabulated statement. I could have included others, but the asylums named are a fair average of State institutions.

PERCENTAGE OF EXPENDITURES.

NAME OF INSTITUTION.	Food.	Clothing.	Combined.	Salaries.	Wages.	Combined.	Fuel, Lights, Medicines, Incidentals.
	%	%	%	%	%	%	%
Insane Hospital, Alabama.....	26	9	35	7	17	24	41
Eastern Lunatic Asylum, Kentucky	34	11	45	5	21	26	29
Columbus Asylum for Insane, Ohio	47	5	52	3	24	27	21
Hospital for Insane, West Virginia..	33	5	38	9	24	33	29
Northern Hospital for Insane, Wis...	39	6	45	.....	.....	31	24
State Lunatic Asylum, Mississippi...	41	10	51	.....	.....	30	19
Hospital for the Insane, Conn.....	32	4	36	5	24	29	35
Insane Asylum, North Carolina.....	25	4	29	.....	.....	37	34
State Lunatic Asylum, Minnesota...	26	5	31	5	25	30	39
Western Lunatic Asylum, Virginia..	34	4	38	13	19	32	30
Southwestern Lunatic Asylum, Va..	28	4	32	13	21	34	34
Eastern Lunatic Asylum, Virginia...	31	6	37	.....	.....	36	27

Average for all (12)—Food and clothing, 39.1; salaries and wages, 30.9; fuel, lights, medicines, and incidentals, 30.2.

Average outside of Virginia (9)—Food and clothing, 40.2; salaries and wages, 29.6; fuel, lights, medicines, and incidentals, 30.1.

For Virginia (3)—Food and clothing, 35.2; salaries and wages, 34; fuel, lights, medicines, and incidentals, 30.1.

Virginia per capita cost per annum, about \$165—Food and clothing, 35.66% = \$58.65; salaries and wages, 34.1% = \$56.10; fuel, lights, etc., 30.33% = \$50.05.

This table shows a marked uniformity in the outlay in the group for food and clothing, and that for fuel, lights, medicines, incidentals, etc. In salaries and wages group, Virginia is four per cent. ahead of the general average, and five per cent. over that of the other States enumerated. Now, with the per capita cost per annum in Virginia of \$165, \$58.85 go for food and clothing, \$56.10 for salaries and wages, and \$50.05 for fuel, lights, medicines, incidentals, etc. This calculation will be useful to any one interested in reducing the per capita cost for maintenance in asylums. It is quite clear that the cost of food and clothing cannot, under the present arrangement, be reduced to

any considerable amount, because no institution of this character can successfully treat patients suffering with diseases of both mind and body (insane people), and accompanying lowered vitality, without an ample supply of nutritious food and warm clothes. In fact, if I were asked to designate the essential helps in the treatment of this unfortunate and dependent class of sick people, after admission to asylums, and in the order of their importance, I would say, unhesitatingly: First, suitable and sufficient food; second, warm clothing; third, intelligent, reliable, industrious, and humane attendants; fourth, proper exercise, with judicious and well-selected employment—all, of course, under the supervision of watchful, active and competent physicians. I once heard a prominent and conscientious superintendent of an insane asylum remark that no position in life required more persistent labor of body and mind, more of tact, patience and self-control, than the ordeal of a conscientious service in an insane asylum; and, on the other hand, no place offers better opportunities for deferring the work of to-day until to-morrow, and for allowing the discharge of duty to drift into a channel of merest routine. Hence, I would insist that none but those capable of strictest application and much self-denial, and who possess a high sense of the great responsibility resting upon them, should ever be selected either as physicians or attendants in an insane asylum.

Possibly some may think I underrate the influence and efficacy of drugs, but I do not. They have their place, are always useful, frequently indispensable, but do little good except in conjunction with the foregoing.

In the matter of salaries and wages, possibly a small saving might or ought to be made; but all who have had experience with public affairs know when an office is established and the salary fixed, they are usually retained, and it not unfrequently happens that the appointee is himself the principal beneficiary. Moreover, much care should be observed not to impair the efficiency and usefulness of the working corps of any public institution.

In the group embracing fuel, lights, medicines, etc., in the absence of a detailed statement of what it embraces, no safe suggestions can be made. This group in Virginia, apparently, does not exceed the cost in similar institutions outside the State; hence, it is fair to assume that no relief will come, or be insured for any length of time, from this source. Altogether, it does not seem to be at all probable, under the present system of sending all classes to the same institution, that any considerable saving of money can be expected, and yet we have seen how rapidly the demands have increased since 1870, and know they will never be less than they are now.

Recognizing the importance of having accommodations for all of the really insane of the State, and yet be just to the tax-payers as well, the Legislature, in March, 1892, authorized the appointment, by the Governor, of a committee to be composed of three physicians, who should inquire: "1st. Into the present system of admitting patients to lunatic asylums; and, 2d. Whether there are some patients that should not be confined therein."

This committee, with our distinguished brother, Dr. W. W. Parker, of Richmond, as chairman, was appointed, and visited all insane asylums in the State. In December following, they made their report, stating that there was a "full understanding that it would be considered in all its details by an intelligent committee of the next Legislature." After a careful examination of all questions germane to the subject of inquiry, the committee ventured to make certain suggestions, and with commendable liberality invited criticism, through the public press of the State, with the expectation that it would prepare the Legislature for such action as might be deemed wisest and best, believing, as they said, "that the happiness of hundreds of our fellow-citizens, as well as thousands of dollars, is involved in the solution of these problems." Ex-Governor P. W. McKinney, in his most excellent message to the General Assembly, in December, 1893, entered largely and fully into the discussion of questions affecting the care of the insane, and

the grave responsibility resting upon the State in the discharge of its duty in this respect. He is emphatic in his recommendation, too, and urges "the necessity for reducing expenses." It is but just to say that none of his predecessors have given this subject more thorough investigation than he, and his message is worthy of the most thoughtful consideration by any one who feels an interest in, and desires to see this Old Commonwealth in all things, and especially wherein it pertains to the welfare and happiness of her citizenship, fully abreast with the times. The first State in the Union to establish an asylum for insane people, and the first, after the freedom of her slaves, to provide a separate institution for the accommodation of the colored insane, the Governor earnestly believes she ought not to be allowed to lag behind her sister States in this greatest of all charities.

The committee, in its report, advised with reference to the present system of commitment, that it be abandoned, and that the county, corporation or circuit judge, and upon the testimony of at least one physician, should pass judgment on all cases of persons applying for admission. The Governor, in his message to the preceding Legislature, commented on the defects of the present law in the matter of commitment, and, in his last message, coincides with the committee, and advised a change. There seemed to be hardly any doubt but that a change ought to be made. To say the least, the present system is cumbersome; yet, it is also questionable if the proposed change will afford needed relief to either the State or the afflicted. When we remember the diversity of opinion entertained by even distinguished experts as to where the border-line of insanity lies, it can hardly be expected that judges of county, corporation or circuit courts, with the aid only of ordinary practitioners of medicine, will be able to discriminate very closely in such cases. When insanity is charged, as a rule, the person will be committed, and must be kept under observation until the matter is decided. Each asylum has, under the present law, a legal Board of Examiners, com-

prising the Superintendent and his assistant physicians. Last year 303 patients were admitted to the three white asylums, and only two patients reported as "not insane"—less than one per cent. How many were tried under the present system, and not committed, we have no means of ascertaining. The two that were committed, passed the magistrate's court; they passed also the Asylum Examining Board, and were no doubt kept under observation a considerable length of time before their sanity was proven. That so few mistakes are made, may be regarded as quite remarkable. I am clearly of the opinion that whatever change is made in the system of commitments, it should be under the direction and guidance of the court, and should also involve the requirement for a full and truthful history of the case. Records heretofore accompanying cases are often very defective—sometimes misleading and useless. The Examining Boards at the asylums can only take them for what they are worth, put the patient under observation, and determine the nature of the trouble afterwards.

Further reference to the report of this committee shows that at the time of this visit, there were, in the three asylums for white persons, only 378 patients who were regarded by the superintendents as being dangerous or violent, and that 1,073 had shown no disposition to harm themselves or others for five years previous. It is also stated that not twenty were found in bed in all the asylums. Now, relying on this statement as correct, could not one-half, or it may be two-thirds, of them be at least reasonably well cared for by the State in less expensive institutions than our compactly built and expensively equipped insane asylums? I say "reasonably well cared for," because the bad results from overcrowding have been so apparent to every observant and well-informed physician who has had charge of insane people in hospitals, that it has been an absorbing question for several years to know what is best to be done with the chronic class. The drift of opinion now seems to be that they should be separated from the acute and vio-

lent and placed in institutions where they get all the "State care" necessary, yet have more liberty, and under such influence and with such environments as will enable them to contribute something, by their labor, to the support they get. The building they occupy might be less imposing, and lack something in the extravagance of architectural design, and cost less money, but should be commodious, comfortable, and home-like as may be. The grounds attached may want something in picturesqueness and ornamentation, but have more of utility. The hospital staff and all the various departments for its work may be less elaborately gotten up than is the case with institutions where medical treatment and attention have for their paramount object the recovery of its inmates, but, in their sphere, will do fully as much good for the State and for the amelioration of suffering humanity.

Dr. John B. Chapin, of Pennsylvania Hospital for Insane—and very high authority he is in all matters pertaining to the management of insane asylums—believes that the acute and chronic should always be separated, and never kept together for treatment in the same hospital. In a paper read before the American Medico-Psycological Society, in May, 1892, he says: "Every hospital and asylum has within its borders two distinct classes—the recoverable and incurable— * * * The association of large numbers of acute and chronic cases is an evil too serious to be continued without recognition by those contemplating changes, or the erection of new buildings. Some here may remember when it was generally a received opinion that the association of the two classes was beneficial; that one exercises conservative effect upon the other; but I must state for myself, that I believe the injurious consequences far over-balance the supposed good results. * * * Due consideration of the requirements of each class requires an efficient service for both, or one class inevitably suffers at the expense of the other." Dr. Chapin further states a fact that has impressed me very much, when he says: "Some of our State asylums, although called 'hospitals,' are only

such in name—their original purpose has been so changed that they are merely crowded receptacles, * * * where the members of the staff are principally concerned with the problem of safe lodgment of their patients day and night.”

It was, no doubt, after due consideration of the whole matter, that the Legislative committee, after its visit to our State asylums, deemed it “wisest, as there is nothing in common between them, to separate them entirely”—meaning the two classes—“and put them under a different management, and where expenses would be greatly reduced in many ways.”

The question of saving money by segregating the chronic insane and their location in a separate establishment, on a farm, seems hardly to admit of a controversy. The Legislative committee put the saving to the State at about fifty per cent. This may be too large, but, by referring to the tabulated statement heretofore given, we see that food and clothing cost only about one-third of the whole expense. On a well cultivated farm of sufficient size, nearly all the food could be produced, *and much of the labor done by the inmates, and for their good, as I know by experience*; and if this is done, the estimate given may be nearly correct.

This plan of segregation is being adopted in several of the States. For years it has been in vogue in some parts of Europe. They have been variously designated as “Homes,” “Colonies,” or “Farms.” The New York Legislature, a few years ago, to meet the same conditions we are now discussing, purchased a large farm at Central Islip, Long Island. In a recent letter from Dr. H. C. Evarts, Physician-in-Charge, he says: “When we brought our first lot of patients here, every building was so completely surrounded with trees and bushes that we could not see two hundred yards in any direction. We now have something over three hundred acres cleared of trees and bushes, a large portion of which is under cultivation, and, for the past three years, we have raised all the vegetables required for our own use, and last year more than we required, the

surplus of which was sent to another asylum. There is no doubt a large number might be kept, and at a minimum cost, on a good farm." He also adds further, that ninety-four per cent. of his patients were last year engaged in some kind of useful occupation, doing all the work on the farm, under the supervision of the attendants.

The adoption of this plan, though it might not save a great deal of money, would surely enable many equally helpless and equally deserving people, who have been kept out because there was not room, and who have patiently awaited their turn for an empty cot, and the chance for getting their proportion of this great public charity, to find a respectable home, where they could spend the remainder of their days on earth. The committee appointed by the Virginia Legislature thought so when they said: "Here they could have more liberty, with fresh air, in the sunshine and workshops, and some would earn their daily bread and promote the vigor both of mind and body that comes from honest labor." Our Ex-Governor sounded the keynote of an advanced civilization, and our relations to each other in the great brotherhood of man, when he said in his message: "We are under obligations to take care of these unfortunate people. * * * They should not be shut within iron doors and grated windows, nor should it be necessary to have their premises surrounded by strong guards, but the place in which they are held should have all the comforts of a pleasant home."

The increased accommodation at the Eastern and at the Western Asylums will no doubt give lodgment to such as were awaiting admission at close of last fiscal year, but by the time the Legislature of Virginia meets again it may be expected that the old complaint of over-crowding will be heard, and large appropriations asked for additions, repairs and support. Then the General Assembly ought to have before it some well-digested plan for future work, and it is reasonable to presume that this was the intention when in March, 1892, the above-mentioned committee was appointed; but curious enough, notwithstanding the pointed recom-

mendations of the Governor, the appeals for larger appropriations by all the asylums in the State, and the report of its own committee for a specific purpose, little or no notice was taken of the subject by the Legislature.

I am not unmindful of the fact that an objection has been raised to the separation of the chronic and incurable from the acute and curable cases upon the plea that it shuts out further hope of relief to be transferred to an institution intended for the incurable class, but this does not follow as a necessary consequence. By reference to quite a number of asylum reports for counties where, as a rule, many such cases are kept, and to which many are returned after staying for a season in State institutions, and to reports of institutions for chronic insane alone, we find a good per cent. of recoveries reported. If such transfers are an infliction at all, is it not less so than that following the over-crowding of asylums, and the exclusion of many cases who, during the acute and curable stages, had to be confined in the city or county jails until they too are well-nigh hopeless chronics? I have no doubt that there are at this time in our State asylums many incurable cases who, if they had been properly treated in the outset, would to-day be at home and useful citizens.

The plan of separate institutions is not an experiment in either this country or in Europe. At Bielefeld, Germany, twenty-five years ago, a parent colony was started, and now there are over sixty houses scattered about the farm, where 1,000 epileptics find comfortable homes and work to do, thereby contributing to their own support. The State of Massachusetts has statutory provision for the establishment of one or more asylums for the care and treatment of chronic insane in cities of 50,000 and upwards, and the per capita cost is fixed at a maximum of \$3.25 per week, including repairs and all other expenses. Where they have a farm, as at Bridgewater, the cost is as low as \$2.00 per week. Pennsylvania also has a similar arrangement with an insane department in the county almshouses, where harmless feeble-minded persons are kept, "who can be em-

ployed about the house and farm, and need no other moral and medical treatment" (see *Second Report Board Public Charities*). New York, with her large population and more than 15,000 lunatics, has found it necessary to segregate the chronic and harmless from the acute and violent. This was the case at Willard up to 1890, when the "State Care" Act went into effect. Here more than 2,000 of the incurable class were given "a quality of care that is necessary for their comfort and to preserve a standard of physical health still possible to them; at the same time providing them with skillful medical supervision and all the benefits that may accrue therefrom." Connected with this, one of the largest insane asylums in the United States, is a farm of nearly 1,000 acres, which supplies 16 per cent. of the whole cost of maintenance; and the further remark is made by the Board, "The farm is of still greater value in providing agreeable and healthful employment to a large number of male patients who would otherwise be idle." The more recent movement is the establishment of the asylum on a farm at Central Islip, Long Island, as referred to previously. Ex-Governor McKinney, in his recommendations to the General Assembly, advises one asylum for the acute and curable cases, and the other two used for the idiots and imbeciles, and suggests they be called "Homes for the Poor." The suggestion is worthy of consideration. It is in the line of thought indulged in in this paper. Two objections to it, however, might be made: 1st. The area of land attached to any one of our present asylums is too small for the use and support of a large population. If additional acreage could be added, this objection would be obviated. 2nd. This does not provide for an increase that must and will have to be cared for in some way, after a few years more.

Another plan has been proposed. That is to erect, in connection with each of the other asylums, cheap cottages suitable for all of that class of cases who may be induced to work, are tidy, and who do not require constant supervision by the attendants, night nursing, etc. These cottages should be detached from the main building, yet near enough for

the administrative supervision of the medical staff. Dr. C. B. Burr, Medical Superintendent of Eastern Michigan Asylum, is an advocate of this plan, and if properly carried out may succeed, except for the objection urged by Dr. Chapin, that one class will be attended to at the expense of the other.

Remarks on the adaptation of different plans might be extended greatly, but for present purposes they are unnecessary. Whatever is done by Virginia, as indicated above, must be done with due consideration of the expense account. Rev. Fred. A. Wines, for many years Secretary of the State Charities of Illinois, in a conference with the Governor of his State, on a subject identical with the one under discussion in this paper, gave expression to a forcible remark when he said: "Certainly the time has come when a compromise must be made between the taxpayers and the lunatics." It is found in a letter of Dr. Joseph B. Rogers, Supt. Indiana Hospital for Insane, and written to Dr. Benj. Blackford, and comes as a leaflet in the excellent report of the *Western Asylum* of this State for 1893. Gentlemen who have upon their hands the grave responsibility of providing for dependent insane can not overlook the source from which they derive the force that enables them to carry out their designs in the accomplishment of benevolent ends.

We are undoubtedly approaching a period in the history of our State Government when legislators, boards of directors, superintendents and managers of eleemosynary institutions will find it more and more difficult to respond to the call, for humanity's sake, in behalf of the afflicted children of men, and especially those who in the Providence of God are bereft of reason and understanding. The future brings far more serious responsibilities than they have yet encountered. No excuse will be valid, if the peoples money is spent, and the piteous appeals of the poor helpless remain unheard.

Notwithstanding this paper has occupied already more space than was originally intended, it will be incomplete and fall short of the purpose it was expected to serve, if I did not mention a few changes in the present system of

State management which will soon or late have to be adopted, and ought to be.

1st. The present plan of separate boards of directors for each institution is probably not the best or most economical. In many of the States there is a central board supervising all the hospitals, asylums, almshouses, jails, penitentiaries and other institutions of this character. They also, by virtue of their relationship to these institutions and their supposed information as to the wants of each, and their general knowledge of the wants of the State as a whole, they can aid in shaping legislative enactments for the good of all, and not for the advancement of one particular class of institutions, or for the institutions of one or more sections of the State. By their direction all appropriations for these purposes are equally distributed, and expenditures equalized. In Virginia, a central board of five members, selected from the State at large and because of their peculiar fitness for the work they are expected to perform, will be sufficient. This board should have an efficient secretary. It should be required to visit each of the institutions under its care at least twice or better three times every year. In addition to this there should be a local board or executive committee of three gentlemen, whose residences are near the institution they are expected to supervise, so that they can meet monthly, or as often as may be deemed necessary and with no great inconvenience to themselves or cost to the State. The superintendents of the various institutions report through the local board to the central board, and this body through the Governor to the General Assembly. This plan ought not only secure a better service, but should be less expensive than the present system of separate and distinct boards with per diem and mileage for all. The amount paid out last year by the four lunatic asylums alone, amounted to about \$4,000 for the support of their boards of directors. These central boards in New York, Pennsylvania and Massachusetts, as far as I can learn, get no pay. The actual and necessary amount paid out for expenses is refunded to them by the State, and nothing

more, and is not chargeable to the appropriation for maintenance.

2nd. By reference to the reports of the three white asylums in this State it will be seen that about 20 per cent. of the cities, counties and towns send over 50 per cent. of cases to asylums. In the Western Asylum out of the 659 patients remaining at close of last fiscal year, one city and five counties had 209 patients. At the Southwestern, out of a total admission of 968 patients since 1887, eighteen counties had furnished 644. At the Eastern, out of 61 admissions last year, three cities and two counties gave 28 or nearly one-half. This would seem to indicate that either there was a larger number of insane persons in some sections than in others, or there was a peculiar aptitude on the part of some sections for committing patients for asylum treatment. In either case it would seem but fair that the counties, cities and towns deriving the largest benefit, should contribute most. In many of the Western States, and I believe in all of the Northern and New England States, the counties and cities pay a fixed charge for keeping patients in State asylums. This has, in a measure, kept out a goodly number of persons who belong more appropriately to the Almshouses and Reformatories than to an asylum for the treatment of insanity. Ex-Governor McKinney suggests this in his message last year.

3rd. If the present plan of keeping all classes in the same institution be continued, then the State should be laid off in districts, and each institution, as they are now located, be brought up in capacity equal to the wants of their respective districts, and no transfers from one district to another should be made except for good reasons, and these should be provided for by statutory enactment.

This was urged by a commission comprising the superintendents of the four asylums in the State, and appointed by the Legislature in 1887. In the report of this commission the boundaries of these districts were indicated. The advantage accruing from this will be a saving to the State in cost of transportation, and possibly a better management springing from sectional pride.

ART. II.—Case of Double Ovarian Abscess—Remarks.

By J. THOMAS KELLEY, Jr., M. D., of Washington, D. C.

"Abscess of the ovary," says Mr. Tait, "is a condition of extreme rarity, or at least it certainly is one which we can rarely diagnose during life; and in the majority of instances death probably occurs from rupture into the peritoneum, without any diagnosis having been made beyond that comprised in the generic term of an attack of 'inflammation of the bowels,' under which category a large number of cases are entered in the death register."*

Nearly all the authorities say that ovarian abscess occurs in connection with pelvic suppuration of puerperal women. Galliard cites the influence of exanthemata. A young woman, twenty-one years of age, had measles and developed general peritonitis. She died on the twenty-fifth day. Autopsy disclosed a small abscess of the right ovary, but no inflammation of uterus or tubes. This he considered secondary to measles.†

Henry Morris reports a case caused by an intra-mural fibroid. Patient died of general peritonitis caused by rupture of the ovary. There was no rise of temperature until general peritonitis developed.‡

Dr. Jos. Price finds large numbers of ovarian abscesses—infection coming nearly always from the tube, whose pavilion extremity is attached to the ovary, or rarely from adhesion to a suppurating dermoid.§

The following case came under my observation in Nov., 1893:

Mrs. B., æt. 35 years, white, married, no pregnancies; tall, thin, and not well nourished. Rosy eczema over face and shoulders; exceedingly nervous, bursting into tears when I first addressed her. Family history good—father and mother both living. Date of first menstruation unknown, but she had a great deal of pain and was attended by a physician for some months; very irregular till 20 years of age; always more or less painful. The dysmenorrhœa be-

* *Diseases of Women and Abdominal Surgery*. Vol. I, p. 432.

† *British Medical Journal*, May 14, 1893.

‡ *Loc. cit.*, May 21, 1881.

§ Private Letter.

came gradually worse until, at 25 years of age, she suffered almost constant pelvic pain, and then allowed herself to be examined. Her physician told her that her womb was nearly outside, and that her suffering was caused by "falling of the womb." He treated her with tampons, and finally introduced a pessary, though he never told her that he had reposed the uterus. For a year she suffered severely and was considered a chronic invalid.

Four years afterward, or six years ago, she had another attack of violent pelvic pain, giving a clear history of pelvic peritonitis; this time she was treated with morphia.

Two years ago she had another attack of pelvic peritonitis, and was in bed for ten weeks. Another physician attended her this time, who also told her that her womb was prolapsed and caused her illness. He treated her with morphia while in bed, and afterward at his office with electricity for seven weeks three times a week.

When I first saw her in November of 1893, she was frightfully nervous, and complained of constant pain in her lower abdomen and hips, becoming violent during defecation and dysuria with frequent micturition. Temperature, normal; pulse, rapid; urine contained no albumen, but considerable bladder epithelium.

Examination showed that the abdomen was flat, tender above pubes, with dullness on percussion for two inches; perineum intact; cervix just within introitus vaginæ; normal size, and hard; uterus rather large, and wedged downward and forward by two large fluctuating masses—one on either side. She was put upon tonics and sedatives, and the bowels kept freely moved for two weeks.

She entered Providence Hospital December 13th, where she was operated upon two days later.

On opening the abdomen, there appeared several large peritoneal cysts filled with a straw-colored fluid. The bowels and omentum were adherent. The ovaries were filled with creamy pus—one about as large as an orange, the other somewhat larger, both ruptured into the abdomen. The tubes, about as large as a man's thumbs, were filled with a dark brown fluid, blood, and pus, and were attached by their fimbriæ to the ovaries, the cavities of the two not communicating.

The abdomen was flushed, and a glass drainage-tube inserted, which was removed in twenty-four hours.

She made an uninterrupted recovery, leaving the hospital twenty-four days after the operation.

She is now looking after her household, and suffers no pain.

The eczema is nearly all gone, and the nervousness is no more than what would be expected of a woman at the menopause; she has not menstruated since the operation. In short, she is enjoying life and expects shortly to join her husband, with whom she has not lived for some time—married life in her previous condition being unbearable.

The history of the case, and the specimens, would seem to show that the ovaries were affected before the tubes. I can get no history of gonorrhœa, abortion, or of exanthemata.

The interest in this case centres about the following points:

Although seen by several reputable physicians, the diagnosis of abscess seems not to have been made. The long-continued suppuration, ten years. The attacks of peritonitis, nearly at one time proving fatal. The patient trial of electricity, and the ultimate complete recovery to health after operation.

That the diagnosis was not made I take from the fact that the uterus, pushed down by the large abscesses from above, gave the appearance of procidentia uteri without further examination, and she was accordingly treated for that affection by each of her physicians.

That the abscesses were there for so long a time is true, because I found the uterus in the same position described to her by the physicians who examined her at that time, and that her suffering was exactly similar, except in a greater degree, to the condition in which I found her.

That the abscesses did not rupture into some neighboring organ seems strange, though the attacks of peritonitis may have been caused by a slight rupture into the peritoneum.

She claims to have been benefitted by the electricity, and says that the uterus was not so low at the vulva after this treatment as during the attack, but this would naturally follow without any treatment after recovery from acute peritonitis.

Examination two weeks ago showed that the vagina is long, but so small as to admit one finger with difficulty; the uterus is normal in size, and high up in the pelvis; and there is no tenderness and no "masses."

The urine is normal, and the dysuria has entirely disappeared.

2027 *I Street N. W.*

ART. III.—**Malarial Cachexia—Chronic Malarial Poisoning—Chronic Intermittent.***

By **N. L. GUICE, M. D.,** of Meridian, Miss.,

EX-PRESIDENT MISSISSIPPI STATE MEDICAL ASSOCIATION; EX-PRESIDENT ADAMS COUNTY (MISS.) MEDICAL SOCIETY; MEMBER AMERICAN MEDICAL ASSOCIATION, ETC.

Chronic malarial poisoning may with propriety be described under any title given in the above heading. In malarious regions, it is a disease of very common occurrence—so common, in fact, that many of the inhabitants of such localities view the condition as one of little importance, so far as relates to the safety or comfort of this numerous class of sufferers.

The disease is usually seen in the form of chronic intermittent of the tertian type, though the quotidian and quartan are also encountered. In some cases, the patient is free from any pronounced or typical paroxysm of chill or fever. Sometimes the disease is presented in the form of periodically recurring attacks of remittent fever. Other heterogenous types are also seen, some of them taxing the acumen of the physician in the matter of making a clear diagnosis. I have often encountered the disease in the form of recurring attacks of enteralgia and gastralgia; also of acute splenitis with paroxysms of intense suffering. In one case of the latter form, the pain was so intense, and was so aggravated by the disturbances caused by respira-

* Read before the Medical and Surgical Society of Mississippi, May 23d, 1894.

tion, as to threaten the patient with death by apnœa. Regularly recurring paroxysms of intense nausea may be mentioned as another form of the disease. In one case, reported by me in 1892, the chief evidence of the presence of malarial poisoning was presented in the form of a sudden and painless tumor, appearing on one side of the face, at about the same hour every other day.*

The majority of cases of chronic malarial poisoning occur in subjects less than twenty years old, and the liability to the disease lessens as age advances. In a typical case, the patient is most frequently seized with a chill in the morning, and may suffer severely for a few hours, or, as not unfrequently happens, may not find it necessary to lie down. If proper treatment be not instituted, a similar attack will be experienced in twenty-four or forty-eight hours. Quinine, properly administered, will promptly interrupt the paroxysms, but if no other treatment be given, they will return on the seventh, fourteenth, or twenty-first day, the fourteenth being the most common period of recurrence.

Pending the period of quiescence of the disease, when no febrile or other pronounced paroxysms of suffering are noticeable, the patient, though on his feet, and probably at his usual avocation, is by no means well, but generally complains of loss of appetite, bad taste in the mouth, unrefreshing sleep, a feeling of weariness, pains in different parts of the body, shortness of breath, etc. Such patients are often pale, sallow, and emaciated; the spleen (and not unfrequently the liver) is enlarged, and often tender to pressure; the tongue and mucous membranes are pale and anæmic. Often there is a marked tendency to epistaxis, and the urine is highly colored to the extent of making a distinct stain upon linen. In severe and protracted cases, the discoloration of the skin may be so deep as to simulate actual jaundice. Distention of the abdomen is often present, and, in advanced cases, œdema of the face, feet and ankles. Night-sweat is also a common symptom. The patient may become so feeble and anæmic as to be almost

*Virginia Medical Monthly, Vol. XIX, January, 1893.

incapable of exertion. Let alone, or improperly treated, many of these cases present ultimately a most pitiable condition.

From personal observation, I am *firmly convinced* that all chronic malarial diseases are, *as a rule, neglected by both the physician and the laity*, and that *this neglect enters largely as a factor into the mortality of malarious districts*. Particularly is this true as relates to chronic intermittent, which, as above stated, is by far the most common type of the disease.

Every physician should awake to the *great importance* of properly and carefully treating these patients, and should also *instruct the laity* to the extent of entirely freeing their minds from the general and *often disastrously erroneous belief*, that no damage accrues to, or danger awaits, the never-ending list of patient sufferers from what they usually denominate "*growing chills* "

When properly treated, the disease is cured almost without exception, without difficulty, and with so little *necessary* expense, that the most impecunious citizen need not suffer. The necessity for a change of climate, even so much as from the swamps to contiguous hills, must indeed be rare, as I have not found this measure necessary to the relief of a single one of the thousands of cases treated by myself.

It is well usually to commence the

TREATMENT

of this class of patients by giving five grains of quinine three or four times daily, for two or three days. This will rid the system of at least a portion of the germs of malaria; and especially is the quinine necessary if there be present at the time paroxysms of fever, to which a great majority of such cases are subject. Quinine will also suspend periodical attacks of neuralgia, and, in fact, any other periodical symptom. Constipation, if present, should be relieved by a simple laxative or purgative, which should be repeated p. r. n.

Calomel, which is so constantly and so freely given in this country, is *contra-indicated* in malarial cachexia. It

adds to the already debilitated and anæmic condition by diminishing the number of red globules of the blood. It impairs the ozonizing function of this vital fluid, and deranges digestion, and impairs nutrition; and, when given to ptyalism, *as is so frequently done*, it charges the blood with fetid and effete material, destroys the plasticity of the fibrin, and increases the proportion of water. It also stimulates and increases the waste of the tissues, and otherwise adds to the burden of an already struggling system; and to this may be added *the fact that there is nothing in the pathology of the disease which calls for or indicates the specific action of mercury.*

The proper treatment is one that is tonic and sustaining. Such is also the *rational treatment*, because the general condition is that of anæmia. Whether the disease be in the stage of recent development, and marked by only a few recurrences of chills and fever, or of long standing, and presenting a condition of profound anæmia, enlarged spleen and liver, sallow complexion, etc., the treatment should be about the same. An excellent combination, and one I have used more frequently and more successfully than any other, is the following:

R Quinæ sulphatis. Div
 Ferri sulph. exsic..... ʒj
 Acid arseniosi..... gr. ij
 Ext. gentian..... q. s. ut ft. mass.

M.—Divide in pill No. 40. S.—One three times daily after meals.

This prescription may be dispensed either in pill or capsule at the option of the patient, and should be taken continuously for *not less than* twenty-eight days. I have found after much experience that failure to continue the treatment, *whatever it be*, for the above period will commonly result in a return of the original condition, and hence the rule should be *rigidly applied in all cases*. In severe, protracted, or advanced cases, it is well to order five grains of quinine, to be taken once daily (morning being best) in connection with the above pill for the first ten to fourteen

days, after which the pill is continued alone. While this is not essential to success, I have found it useful in securing prompt and rapid improvement in such cases.

Two or three grains of *ferri pulvis* to the pill may be substituted for the dried sulphate with probably as good results in most cases, and one-sixtieth grain of strychniæ sulphate may be added if indicated or desired by the prescriber.

Should paroxysms of fever supervene pending the use of the pill, it may be suspended, and five grains of quinine given three or four times daily for two or three days, after which the pill should be resumed.

Should the patient be unable to swallow a pill or capsule, the following combination will be found very successful :

R̄ Quiniæ sulphot..... $\overline{5j}$
 Tinct. ferri chlorid..... $\overline{3j}$
 Potass. chlorat $\overline{3ij}$
 Syr. zingibq. s. ad. $\overline{3iv}$

M.—S. Teaspoonful three times daily in water after meals.

Where the poverty of the patient has been such as to prohibit the use of prescriptions costing so much as those above given, I have used with very good success the following :

R̄ Tinct. ferri chlorid..... $\overline{3iiss}$
 Liquor acidi arseniosi..... $\overline{3iiss}$

M.—S. Twenty to twenty-five drops in water three times daily after meals.

One dose of five grains of quinine given daily before breakfast will add to the efficacy of the above cheap and simple combination.

Abundant experience with the virulent malaria of the southern Mississippi Valley, enables me to speak confidently of the value and success of the foregoing treatment in all conditions of chronic malarial poisoning. In many cases, and especially the more obstinate, the disease may be remedied by the persistent use of arsenic alone (Fowler's solution, min. $\overline{ijj-v}$), given three times daily after meals. I have also used with admirable success in the more obstinate cases the following :

℞ Acid. nitric.....ʒj
 Ferri sulph (C. P.)..... ʒj
 Mix, and when effervescence ceases add—
 Aquæ..... ʒxij
 Quiniæ sulphat.....ʒj
 Strychniæ sulphgr. iss
 Potass. nit.....ʒij

M.—S. Tablespoonful in water three times daily after meals.

This is an incompatible prescription, but an excellent tonic in conditions of anæmia. It is intensely bitter, and is for that reason objectionable.

In babes and other young children, malarial cachexia will generally yield promptly to one or two grain doses of *ferri et ammoniæ citrat.* given three times daily in solution. For this class of patients, medicines should be made as palatable and attractive as is possible, and with this view I have used the following :

℞ Ferri et ammon. cit.....ʒj-ij
 Glycerin.....ʒss-j
 Elix. simp.....ʒj
 Aquæq. s. ad. ʒij

M.—S. Teaspoonful *ter in die* after taking food.*

One teaspoonful daily of febriline (gr. ij to ʒj) may be given in connection with this prescription for the first week in advanced cases. In the treatment of children, as in adults, the medicine should be continued for twenty-eight days. This rule is *strenuously advocated* for the excellent reason that very many patients will relapse if the treatment be continued for a shorter period.

The timely treatment of malarial cachexia is a sure prophylactic in the great majority of cases of that dread disease, *malarial hæmaturia*, which has in the last quarter of a century destroyed so many young and valuable lives. This latter disease, as is well known, develops in nearly all instances in persons who are worn down by *malarial cachexia*, and hence the number of cases would be enormously lessened by simply relieving the *cachexia*, and thus robbing *hæmaturia* of its preferred and easy victims.

*Fowler's solution, in doses suited to the age of the patient, may with safety and advantage be added in old or obstinate cases.

ART. IV.—Treatment of Naso-Pharyngeal Catarrh.**By WALTER F. CHAPPELL, M. D., M. R. C. S. (Eng.), New York, N. Y.**SURGEON TO THE THROAT AND NOSE DEPARTMENT, MANHATTAN EYE AND EAR
DEPARTMENT, NEW YORK.

The treatment of catarrhal affections of the throat and nose by what may be termed minor surgical measures, was given little attention until recently. At present there seems to be a disposition to rely too much on these methods to the exclusion of other means which are equally essential. To obtain the best results, different kinds of naso-pharyngeal catarrh must be recognized, and the treatment selected accordingly.

Naso-pharyngeal catarrh, depending on nasal obstructions and pharyngeal hypertrophies of various kinds, may be treated by surgical methods with excellent results. There are two other causes of catarrhal discharge from the upper respiratory tract which are not so amenable to treatment—one depending on constitutional dyscrasias which are hereditary, and the other acquired and resulting from some form of disturbance in the digestive tract.

Of the hereditary causes, syphilis, tuberculosis, and the rheumatic diathesis head the list.

Persons suffering from congenital syphilitic naso-pharyngeal catarrh are easily recognized, as they have other symptoms which point directly to the nature of their trouble. A complete cure cannot be expected in these cases, but much may be done to hold the offensive discharge in abeyance. Internal medication is most important, and the administration of the liquor arsenici, hydrargyri iodidi etc., will prove very satisfactory. It may be given in small doses, say 3 minims in distilled water three times a day after meals, and kept up for several months. It rarely disagrees, but should it cause derangement of the bowels, or fulness of the head, a smaller dose may be given. Locally, any of the usually recommended solutions may be used for cleansing purposes, and a powder applied of zinci stearas comp. cum ichthyol. This powder is stimulating and antiseptic, and, owing to

its low specific gravity, a small quantity covers a large area. It is also very adhesive, and it is impenetrable to aqueous fluids; it does not cake, and is not carried away by the secretions. The ichthyol in the zinc stearate comp. may be replaced by resorcin or balsam of tolu.

Catarrhal discharges, from a strumous or tubercular diathesis, begin about the age of puberty. The discharge is thick and yellow, and comes chiefly from the nasal fossæ and post-nasal space. The mucous membrane is pale and tightly drawn over the underlying bony structures, and covered with a thick semi-transparent discharge. Patients suffering from this form of naso-pharyngeal catarrh, almost universally have facial acne indurata, which scars them for years. The mucous glands on the inferior turbinated bodies are sometimes large and red, bearing a strong resemblance to the acne on the face. It usually occurs in several members of the same family. Immediate results of a palliative nature may be expected from well-directed treatment, but time alone will do a great deal for this catarrh and its accompanying acne. The treatment should be to increase the fatty tissues and build up the general health. Plenty of cod-liver oil and outdoor exercise should be advised. The usual cleansing agents may be used for removing the secretions; the douche is preferable to sprays, when the accumulation is abundant and dry. Dessar's nasal cup is a convenient method of carrying out this treatment, but a douche, arranged on the principle of a fountain syringe, gives better results. The reservoir should hold only a pint, and hang about six inches above the patient's head. The rubber tube and nasal tip should be about three feet long. The following rules may be given to the patient when using the douche:

1. Warm the fluid to be used, and apply vaseline to the nasal tip.
2. Put the nasal tip in the nostril of the side you can breathe best through.
3. Hold the breath, throw the head slightly back, and allow the fluid to enter the nose.

4. If there is a desire to breathe, take the nasal tip away for a few moments, and begin again.

5. While using the nasal douche, do not attempt to walk, cough, swallow, sneeze, or become excited in any way.

When the catarrhal symptoms are the result of a rheumatic diathesis, the mucous membrane of the nasal fossæ and naso-pharynx is of a deep red color, not specially hypertrophied, and the discharge is mostly watery and frothy in character. The persons are, at all times, very sensitive to dust, winds, change of temperature, etc., and when they take cold, the nasal discharge is great, and keeps up for a long time. There will be intervals when the catarrhal symptoms are in abeyance, and then suddenly appear without any apparent reason, but, on further examination, the urine will be found highly acid, and with an increased specific gravity. Sprays and douches are positively contraindicated in these cases, and it is a question if any local application is of service.

Thin ointments have seemed to allay the acute symptoms in some cases. For this purpose the following may be used:

R.—Acid carbolic.....	grs. ij
Camphor.....	grs. iij
Ol. gaultheri.....	min. iij
Benzoinol.....	ʒss
Ung. oxidi zinc..	ad. ʒj

M.—Sig.: Apply in the nostrils two or three times a day, with a camel hair brush.

Internal medication gives the best results. To temporarily check the discharge, small doses of ext. belladonna, quinia sulph. and camphor, in capsule form, prove very satisfactory, but anti-rheumatics must also be employed.

Chronic-pharyngeal catarrh, resulting from digestive troubles, is the most frequent form observed in this country. Adults are the principle sufferers. There is considerable discharge, varying in character, and with little or no odor. A full feeling behind the palate and around the base of the tongue is a constant symptom, as is also a sensation of something running from that region. The desire

to clear the throat, especially when speaking, or after excitement or meals, is very troublesome.

No amount of hemming or clearing the throat seems to relieve these cases. Two classes of persons suffer from digestive difficulties which cause catarrhal affections. One class of full habit, eat a great deal and keep the whole digestive tract engorged, liver congested, and a general sluggish condition of the intestinal circulation.

The mucous membrane of the pharynx in this class is more or less congested and bathed in a watery, frothy mucus. The vessels and glandular tissues of the pharynx, and around the base of the tongue, are much enlarged and engorged to a more or less degree. The glandular tissue at the base of the tongue varies much in appearance; in some it is nodular, while in others it occurs in large masses which encircle the epiglottis. The varicose condition of the lingual veins and the hypertrophy of the glands, have been called "lingual hæmorrhoids;" and they certainly have a close affiliation with rectal hæmorrhoids—not alone resembling them in appearance, but frequently result from the same cause, produce similar symptoms, and respond to the same treatment.

The other class of digestive catarrhal affections develops in persons suffering from dyspepsia of nervous origin. The mucous membrane of the pharynx and the condition of the neighboring parts is pale, and bathed in mucus, due to the sluggish condition of the circulation of the pharynx, œsophagus and stomach.

In the treatment of the first class of the digestive cases, the diet should be regulated, and liquids of all kinds taken in moderation; saline purgatives relieve the congested circulation; walking, exercise and daily baths, or rubbing with a coarse towel, also assist. Washing out the stomach, by the usual method, gets rid of the excess of mucus, and produces more rapid and complete digestion. The patient should be taught to wash out the stomach every morning before breakfast. At first, considerable gag-

ging will be experienced, but a little perseverance overcomes this.

Various methods have been suggested for reducing the hypertrophied glandular tissue, and all are more or less efficient. In my experience, the best uniform results are obtained by the application of a saturated solution of pure iodine and carbolic acid, consisting of iodine, carbolic acid crystals, each 120 grains; iodide of potash, 10 grains; rectified spirits, 2 drachms. This solution, applied to the glands on the posterior pharyngeal wall and the base of the tongue, once a week, causes no pain or soreness; at the same time it produces a change in the glandular tissue, which is unequalled by any other application in my experience.

The dropping of mucus from behind the soft palate is considerable in all forms of catarrhal affections, and for general use in stopping this disagreeable symptom, a powder containing nitrate of silver, in varying proportions, as first suggested by Dr. A. H. Smith, will prove most effectual. The formation of this powder, as described by Dr. Smith, is well worth our consideration.

In ordering a powder that shall contain a certain proportion of silver nitrate, it is necessary to select a diluent that will not decompose the silver salt. This condition at once excludes all powders of organic origin, and also all carbonates of the alkalies or alkaline earths. Of the powders remaining, we must select one that will be bland and unirritating to the tissues, and not disagreeable to the taste. Bismuth sub-nitrate at once suggests itself, and it serves an excellent purpose until it has been exposed for awhile to the air, when it becomes damp and lumpy. It needs, therefore, the addition of a small amount of some powder that will not absorb moisture, and that will separate the particles of bismuth. Potassium sulphate fulfills these conditions, and as both base and acid are stronger than in the silver salt, no decomposition results. The sulphate is neutral in re-action, and not irritating to the mucous surfaces.

A powder composed as follows, will not change chemi-

cally, will not become lumpy, will not cause irritation, other than that from the silver, and is not offensive to the taste:

R_x.—Argenti nit..... gr. x-xl
 Potas. sulph..... ʒj
 Bis. subnit..... ʒviij

M.—Sig.: For local use.

No. 22 East 42d Street.

ART. V.—Brief Hints on Diseases of the Ear in Children.*

By LAURENCE TURNBULL, M. D., of Philadelphia, Pa.,

AURAL SURGEON JEFFERSON MEDICAL COLLEGE HOSPITAL, ETC.

The subject of Wharton's jelly in the ear of a child, as a rule, has been found in the premature infant, followed by irritation and a discharge. There are other cases where the labor is difficult and prolonged, and when the ear becomes filled with blood, meconium, and the genital secretions of the mother, causing a muco-purulent discharge, which must be cleansed by an intelligent nurse, such as may be found in our hospitals, where instruction has been given to that effect. No inflammation has resulted from such treatment, nor has dermatitis ever followed the cleansing.

In the treatment of otalgia or earache in the newborn, no remedy has been found so successful as a two-per-cent. solution of cocaine, applied as hot as the patient can bear it; or heat alone—dry heat being preferred—as a bag of hot salt or hops. Should there be severe inflammation, apply an ice bag, or Leiter's coil of lead pipe, around the ear, with ice water flowing through it. If these mild measures are insufficient, powders of bismuth with morphia may be used, grading them according to the age of the child, with the use of the artificial leech or very small cups.

Acute middle ear catarrhal attacks in children, com-

*Paper delivered before Pennsylvania State Medical Society Meeting, in Philadelphia, May 17, 1894.

mencing in the nose, and extending through the Eustachian tube to the middle ear, producing deafness, should be carefully treated by the relief of pain, and even, if necessary, puncturing the membrana tympani—cleansing by a mild antiseptic solution or powder, followed by constitutional remedies adapted to the peculiar constitution of the child.

The throat must be attended to by applications to the naso-pharyngeal mucous membrane.

If this middle ear disease is not promptly treated, by opening the Eustachian tube, the disease is apt to involve the mastoid cells, especially the superficial layer. The following is the method of inflating the Eustachian tube in young children: We inflate the nose, and listen for the thud, normal, or abnormal moist sounds—these latter will make the diagnosis certain. The air douche operation of Politzer consists in a condensation of the air in the naso-pharynx, by a strong inflation into the cavity, while the nostrils are closed with the fingers. In the case of adults, it is necessary they should at the same time swallow, in order that the raised palate may close the naso-pharynx behind, and also because the act of swallowing with the mouth shut, opens the Eustachian tube, and thus furnishes a passage of air into the middle ear. In children, however, this swallowing is not absolutely necessary, because the naso-pharynx is so small that the condensation of the air is greater than in adults, and because the tubes also, in children, are relatively wider than in adults, and the action of the compressed air can, therefore, more readily reach the ear.

When this method of inflation is to be employed, instead of the rubber bag for air, as is generally used, with hard, long nozzle to be inserted back into the nose, a short rubber tube is what I use, the two ends of which are furnished with a quill, bone, or ivory termination—one for the mouth of the physician, mother, or nurse, and the other for the nose of the patient. After cleansing the nose by gently blowing, washing, or wiping it out, the end is inserted and kept in place with the finger and thumb, and with the other

end a blast of warm air is blown into the middle ear. At first the little patient is frightened, and grasps at the instrument and the ear; but after a time it gradually becomes accustomed to it, as it gives no real pain, and it rather becomes a source of amusement. Any intelligent mother or nurse could practice this operation when so ordered.

The physician must be sure that the cause of deafness is an exudation of pus, mucus or serum into the middle ear. If the child has had an earache, and there has been perforation of the membrana shown by a discharge, the simple act of blowing the nose will open the tube; this should always be taught a child, unless too young, when the nose must be cleansed several times a day with a soft camel's hair brush or small syringe and warm water, with a few grains of bicarbonate of soda. If, however, there has been inflammation of the middle ear of the child, the result of a cold from naso-pharyngeal catarrh, acute exanthema, or pneumonia, attended with pain in the ear, or if the acute symptoms have been relieved by leeching, natural or artificial, hot or ice water applications, chloroform vapor, etc., the child recovers.

Frequently, from neglect, the child becomes absolutely deaf. Such a case was presented for treatment only yesterday. A child four years of age, completely deaf, never having been treated before; the cause could not be given by either the parents or the physician who brought it. It was not a deaf mute, as the child had a strong voice.

This is the reason that the statistics from the so-called deaf mute institutions are of so little value. The cause of each case should be carefully investigated and a correct diagnosis be given by the physician in charge, *not* left to the superintendent, who is not always a medical man.

1716 Chestnut Street.

ART. VI.—Typhoid Fever Epidemic of 1844-7 in Campbell County, Va., and Its Treatment Then and Now.*

By A. I. CLARK, M. D., of Lynchburg, Va.

Mr. President and Fellows,—I propose to give you my recollections of the epidemic of typhoid fever as it prevailed in Campbell and adjacent counties in this State in 1844-'45-'46 and '47, and its treatment then and subsequently. In doing so, I will frequently have occasion to allude to myself, which unavoidable egotism I hope you will pardon.

I was a student of medicine in the beginning of the epidemic, graduating in July, 1845. The first cases of which I knew anything were in 1843, but I was informed that farther west (in Roanoke and other counties in Virginia) the disease prevailed to a considerable extent in 1842.

In 1843, there were some isolated cases in this section, one of which I was invited to see by Dr. Edmund Austin. The patient was a son of Col. David Quarles, of Bedford. He had a very malignant type of the disease, which was called by his physician *malignant bilious fever*. The case proved fatal. Soon after that I visited my father, near Brookneal, in Campbell county, some thirty miles distant from Col. Quarles, and was asked by my father's family physician to go with him to Mr. Gilchrist's and help nurse some patients who had "malignant bilious fever." Arriving there, I found six or eight cases, two of whom died; others had died previously. I was requested by the attending physicians to search for the cause. I did so, and found it under some negro cabins, where the first cases appeared. There were loose planks in the floors of the cabins, which the negroes would raise, and throw under them the accumulating filth. These cabins were built on a hillside, and when it rained water would flow under them and there remain, producing an offensive loblolly. The houses were burned and the sites covered with lime. This effectually arrested the disease. These cases were evidently what is now called "*typho-malarial fever*."

*Read at meeting of Lynchburg Academy of Medicine, June 12, 1894.

Early in the spring of 1844 I saw a case at Mr. Hartwell Epps', and several others at Mrs. Archie Bolling's, all in Appomattox county. The case of Miss Eliza, the beautiful daughter of Mr. Epps, proved fatal; also one of the cases (a negro woman) at Mrs. Bolling's. I will relate an incident connected with this case, as it has some significance. I met with a physician there who had recently returned from Paris, where the opium treatment had been adopted. As there was very little hope for the woman, he suggested that treatment in her case, and carried it into effect by giving her about one drachm of laudanum. This produced a deep coma, from which she never rallied. Thereafter, the opium treatment, as far as I know, was abandoned, except to meet indications, as diarrhœa, bronchitis, restlessness, etc.

About this time, the epidemic began to spread more generally, and the young physicians now diagnosed it "*typhoid fever*."

After taking my degree in July of next year (1845), I returned to Campbell court-house, and found the whole country infected with the horrible epidemic. There being a great demand for physicians, I was pressed into service, and was called to see a patient two hours after arriving at the Court-house. I found the physicians pursuing the old mode of practice—bleeding, giving calomel, blistering, and a scant diet, consisting principally of hot-water tea. The centre of the epidemic seemed to be above New London, in Bedford, down into Appomattox, near Concord Depot. Nearly every family, sooner or later, was visited by the disease—each family having from one to twenty or more cases, including white and colored. I soon had a number of cases under my charge, and was rather at a loss to know what course to pursue. Seeing the older physicians following the old treatment, and having the confidence of the people, I determined to give but little medicine until I could decide on the proper course. I found my expectant treatment very successful, which determined my future course of treatment. My determination was strengthened by Dr. William Steptoe, whom I met at a Mr. Moorman's, where there were sev-

enteen very bad cases. We spent two days examining the patients, finally deciding to give as little medicine as possible, and sustain the patients. They all recovered except one.

Dr. Steptoe was regarded as one of the most successful old practitioners in that disease. The neighbors would jocularly say, "the reason why the Doctor was so successful was that he was so slow; that before he got ready to give any medicine the patient would begin to improve, and then medicine was unnecessary; consequently the patient had a fair chance for his life." But they always sent for Dr. Steptoe, all the same.

The epidemic advanced very rapidly from July to December; it then abated somewhat until the next Spring. It was more fatal in 1845 than at any other time, almost annihilating whole families; notably a family (Col. Henry Jones') near New London. There were six or eight whites in the family, and all except two succumbed to the horrible scourge. These cases were treated by an old physician according to the old practice. Other families suffered almost as much. There was every grade of the disease—from cases who would walk about the whole time (and actually assisted in nursing the others), to the most malignant types, where they would lie insensible for days and weeks with bed-sores, sordes, and hæmorrhages from nearly all the mucous membranes. The walking patients would frequently become greatly emaciated. There were also what was called "sweating cases." These would commence perspiring freely early in the disease, and continue until death or convalescence. Some of the bad cases would recover with legs half bent, from having lain on their backs for weeks at a time with their legs drawn up to relieve the pressure on the bowels.

In the Spring of 1846 the disease began to spread again, attacking those who escaped the previous year. While it was very fatal that year, it was more so the previous one (1845). Again during the latter part of 1846 it began to abate, to re-appear in the Spring of 1847, but not so extensively, owing to the want of material upon which to operate. No one to my knowledge had a second attack.

The pathology of the disease was not well understood by the old physicians; neither was the cause, and their views in regard to the nature of the disease were vague and undefined, consequently the treatment was tentative and unsuccessful. Some of us even then believed in the "animalcular origin of the disease," though we had not named the animals as now—bacteria, etc.

Those who had recently graduated and studied under preceptors who taught the true pathology and changed treatment, better understood the nature of the disease, and frequently made post-mortem examinations to satisfy themselves that the pathology taught was correct. I have a record of thirteen post mortems I made, assisted by Drs. Scott, Bass, and others, all of which developed ulcerated bowels, and some of them perforated. I could enumerate a number of interesting cases, but will only mention one or two.

John, a negro boy belonging to Jeff Bolling, had suffered for weeks with the disease in a severe form; he finally began to recover, and improved sufficiently to walk about, having a ravenous appetite. His mother disobeyed my instructions and gave him a quantity of cabbage and other food. In a short time death ensued.

I made a post-mortem examination and found the bowels healed, with the exception of two or three ulcers, which were in a healing condition. One, however, had perforated the bowel, caused undoubtedly by the food he ate, and resulted in his death.

Most of the old physicians looked upon typhoid fever, which they called by different names (as bilious remittent, bilious continued, bilious malignant, etc.), as a sthenic disease, and treated it accordingly with the lancet, calomel, low diet and antiphlogistics generally. A physician who believed in venesection, as one of the most potent remedies, was attending some cases in Mr. Thos. Rosser's family, Isaac, the head man on Mr. Rosser's farm, died; he had been bled and treated in the then usual way. The physician was present at his death. Mr. Rosser told the Doctor he feared he had another case, and called his house-servant, Fanny, out in the yard, and the Doctor pronounced it fever, and said she must be bled, which he did. She fainted, and

was taken in and put to bed. She was treated antiphlogistically. Her case was fatal. Mr. Rosser had several other cases which fell into my hands. He seemed surprised I did not bleed, but I treated them according to the new mode of treatment, and they all recovered.

To illustrate the old mode of treatment, I will mention some cases which came under my observation. The physician would examine the patient, satisfy himself that it was the fever, and the first remedy used would frequently be venesection—taking from half pint to a pint of blood. Thereafter he would resort to cut-cups. After blood-letting, he would give calomel in from two- to ten-grain doses. After the bowels were freely purged, he would either reduce the calomel to small doses, or change it to blue mass or blue powders, which he would continue to a greater or less extent during the whole course of the disease. Opium entered into the treatment of all cases, more or less, for the purpose of controlling the bowels, relieving pain and procuring sleep. Blistering was a favorite remedy with some whenever there was much tympanites or pain, frequently removing the cuticle and applying mercurial ointment to promote ptyalism, believing if that could be established the patient would recover. Nitrate of potash was a favorite remedy with some, combining it with Dover's powders and other diaphoretics. I will here mention that under the old treatment there was frequently an effort made to ptyalize the patient; consequently, mercury was used persistently, and prevented from acting too freely on the bowels by the use of opium. Often the patient would be kept in a room with doors and windows closed, excluding the fresh air, even in hot weather, and permitted to drink only water in which hot toasted bread or a live fire-coal had been dropped. In those days, nearly all the physicians pursued the same course of treatment. Now and then one would vary a little from the rest in some particulars. I remember a physician by the name of Dr. Wm. A. Fuqua, of Charlotte county, Va., who always gave his patients some of anything they craved to eat, and he said he had found

it beneficial. I saw him, in the treatment of his nephew, pursue that course, giving him broiled ham, certainly without any visible injury.

I am the only physician now living who practiced in Campbell during the epidemic, except Dr. Robert E. Withers, now Ex-United States Senator, who was also taught under the new regime, and was a very successful practitioner.

My mode of treatment was very similar to that pursued at the present day. One of the main objects was to preserve the tone of the stomach, so that digestion and assimilation could be maintained. If this were done, I felt that every uncomplicated case would recover. Remedies should not be pushed to gratify friends; it cannot be done without danger. The people, as well as the old physicians, then advocated calomel treatment.

When I was a student, my preceptor gave me a prescription, composed of corrosive sublimate, etc., to cure ulcers. I found it very successful; and, reasoning from analogy, I determined to try it for ulcerated bowels in typhoid fever. I used the bichloride in about the $\frac{1}{100}$ th to the $\frac{1}{80}$ th of a grain doses, two or three times a day. I soon became satisfied that it was beneficial, and have continued to use it, more or less, to the present day, rarely using mercury in any other form. This, combined with the acids, particularly phosphoric (dilute), entered into the treatment of most of my cases. I treated symptoms as they would arise, such as affections of the brain, stomach, kidneys, bronchial tubes, etc., with applications of cold water, in high fever and hot, dry skin; with spirits of turpentine, in dry, red, cracked tongue; stimulants in debility; sugar of lead, opium, and ergot in hæmorrhages; digitalis to sustain the heart, anodynes to procure sleep—selecting such as the patient best tolerated—always keeping an eye on healthy digestion and assimilation. The patient should be visited at least once a day, and at different hours of the day, always sustaining him with easily digested, nutritious, liquid diet, and alcoholic stimulants, of which I will have something more to say hereafter.

I never bled but one typhoid patient in my life, and regretted that, though the patient finally recovered, I avail myself of this opportunity to express my belief in the injurious effects of venesection in typhoid fever. Possibly, in some rare instances, it may have done good in relieving some urgent condition. I am firmly impressed, however, with the belief that it is a very potent remedy (now too much neglected) in the treatment of a number of diseases and complications. I look forward to the time when it will be reinstated in its place by the profession only as a potent remedy in combating certain diseases.

While the bichloride treatment was successful in ulcers, and, I think, in typhoid fever, we, at that time, did not understand the *modus operandi*. But since the introduction of the microbe theory, we understand how it acts beneficially. My experience has taught me that scarcely any two cases can be treated precisely alike, and that each physician must treat his individual patient according to the symptoms presenting themselves, and the idiosyncrasy of the patient.

A very large number of therapeutical agents have been called into requisition in the treatment of this disease, only to be abandoned. The treatment, to be successful, must be simplified. There is one thing certain—that routine practice in typhoid fever is fatal often in its results, as different idiosyncrasies require different treatment. I have repeatedly seen invaluable benefits derived from the use of alcoholic stimulants, and again I have seen it absolutely detrimental. The same may be said in regard to many therapeutical agents.

Before concluding, I will call attention to a few facts concerning the epidemic, which I have not mentioned before. One of these was, the eruption peculiar to this disease appeared in almost every case, the spots varying in number from one to a dozen or more.

Again, the question of contagion was frequently mooted by the physicians of that day—some believing fully in its contagiousness; others that it was feebly contagious; others

that it was epidemico-contagious, and still others that it was only epidemic. My observation, which was extensive (having at all times from one to a large number of cases under my charge, extending from July 6, 1845, to 1847), led me to believe that, while it was not contagious in the true acceptation of that term, but infectious, yet persons who remained constantly with the sick were more liable to contract it than those who did not.

Again, it was much more fatal in girls about the age of puberty than in any other persons.

Again, young children and persons over fifty years of age rarely had the disease.

I cannot conclude this paper without expressing my gratification at the establishment of this Academy. It has certainly been of much benefit and pleasure to me professionally and socially. All the papers which I have heard read have been entertaining and instructive, and without wishing to be invidious, I desire to express my appreciation of the article read last November on the *Causes of Typhoid Fever*, by Dr. W. T. Walker (published in the February number, 1894, of the *Virginia Medical Monthly*).

ART. VII—How to Give Pills to Children.

By A. K. BOND, M. D., of Baltimore, Md.

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The inability of smaller children to swallow pills without chewing them up, renders the administration of certain ill-tasting drugs to such patients, very difficult, and really in many cases becomes a very serious hindrance to necessary treatment.

This fact is especially striking when we consider the treatment of malarial fevers in small children, by means of quinine. The hypodermic method, and administration by the rectum are too unhandy for general use. Application through the unbroken skin is too uncertain and inconvenient. The drug must be given by the mouth in nearly all

cases, or not used at all. Solutions of quinine in acidulated water are indeed most efficacious in the cure of the disease, but the philosophy of the stoics has not yet become a fad among the grown folks of America, and we need not expect children to practise its teachings. Quinine may be dissolved in tincture of iron, and when syrup is added, the combination of nasty things will sometimes be taken without much objection by older children; but iron is often unnecessary, or contra-indicated in these cases.

The administration of quinine in bulky mixtures of substances which cover the taste of the drug, is open to grave objections; for it may well be questioned whether these large quantities of licorice, yerba santa, chocolate, etc., are not positively injurious in many cases to the already enfeebled stomachs of young patients, or even of older ones, ill with severe malarial diseases.

Tablets of chocolate containing definite quantities of tannate of quinine have found some favor with physicians, and are greatly enjoyed by certain children. They, however, are open to the objection that tannate of quinine is not a sufficiently active preparation of the drug to warrant reliance upon it in severe cases.

With some confidence of receiving an attentive hearing, therefore, I venture to recommend to my fellow-physicians a method which I have found efficacious in my own practice, and which I have for some years taught to my pupils. It seems almost too simple to demand description and may have been used by many a practitioner, yet I have never seen or heard a recommendation of it.

I order the quinine sulphate in pill form with dilute acid, generally aromatic sulphuric acid, and direct the mother of the patient to break up each pill, and mix it with a little brown sugar. This is put upon the tongue dry, and a mouthful of water carries it into the stomach. I have never heard of any objection on the part of the patient. Sometimes I suggest that a small fragment of sweet chocolate be broken up and used instead of brown sugar, or that it be taken into the mouth before and after the bits of quinine

pill and sugar. A stick of licorice root may be used in the same way. In this way a very little of the masking-substance suffices at each dose. The pill of quinine sulphate made with aromatic sulphuric acid is not only very soluble, but also in its smallest possible bulk.

It will readily be seen that by means of the pill broken with brown sugar or other masking-agent, any drug or mixture of drugs which can be made into pillular form, may be administered to children with facility. Since it occurred to me to try this method I have never felt the need of masking-mixtures for such prescriptions. Moreover, the mothers of the children take kindly to the plan.

I have no doubt that as years go by the physicians who prescribe for children large quantities of nasty-looking mixtures, disordering to the stomach, and exhausting to the family purse, will become obsolete, while they who order efficacious remedies in neat, simple, agreeable form will not only survive in the struggle for existence, but will eventually rescue Honest Medicine from the hordes of quacks which beset her and win for her the reverence and allegiance of every intelligent mother in the land.

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ART. VIII.—A Clinical Study of Alopecia Areata *

By J. C. McGUIRE, A. M., M. D., of Washington, D. C.

Few diseases cause greater mental distress to the sufferer than alopecia areata. This, together with the endless controversies regarding its etiology, have given especial interest to this form of baldness.

Prof. Unna has said, "When clinical reasons do not speak against it, the general probability in the case of affections of the epidermis is always in favor of parasitic etiology." Following such teaching, those who seek for a specific germ for every disease, have, of course, found micro-organisms in this malady as well. Ginby, in 1843, was

*Read before the District of Columbia Medical Society, May, 1894.

the first to declare that the disease was due to a parasite, which he called *microsporon audouini*. In 1887, Thin believed he had discovered another germ, which he designated *bacterium decalvans*.

The latest and most thorough investigator of this subject, Dr. A. R. Robinson, has described various cocci in the lymph spaces of the corium and the walls of the vessels. He regards these as the cause of the disease. Of the thirty-two observers, whose writings I have consulted, twelve believe in the parasitic theory, while eight are just as positive that the disease is of neurotic origin. Two consider that the etiology should not be limited to these two factors alone. Ten, including most of the leading dermatologists of this country, are of the opinion that there are two varieties of the disease—one of parasitic origin, the other neurotic. Dr. G. H. Fox considers that the majority of all cases are of neuropathic origin. Dr. Bronson believes most cases are caused by a parasite. Dr. P. A. Morrow has affirmed, "nine-tenths of all cases are parasitic, though there may be a neuropathic tendency behind this parasitic element, which results in the formation of a suitable site for the development of the parasite." The most feasible theory seems to be, there are really two varieties, or, as suggested by Dr. Shirwell, two distinct diseases.

The *synonyms* of alopecia areata are numerous. Willian called it *porrigo decalvans*, or *alopecia circumscripta*; Bateman, *tinea decalvans*; Bazire, *tinea achromatosa*.

The disease generally develops suddenly. The loss of hair may be from any part of the body, but usually the scalp is first affected. A perfectly bald patch occurs, which, as a rule, is white, smooth, and "shiny." In other cases, the patches of disease are congested, instead of white, slightly scaly; a few hairs may be left scattered over the parts, and, instead of new hairs being white, they first appear thin and of a natural color. Probably this is the form that is caused by some specific germ.

The plaques of disease may eventually coalesce, till complete baldness takes place. Subjective sensations are usu-

ally absent, or there may be loss of sensibility; in some cases, burning and itching are complained of.

As to *treatment*, those who believe in the neuropathic theory, recommend both constitutional and local treatment. Hebra, though accepting this theory, does not approve of constitutional treatment in so far as it may have any direct effect upon the disease.

Arsenic, as is well known, is a stimulant to the outer layer of the skin; so that theoretically it would appear as if its internal administration would be of benefit in this disease; but those who have had the greatest experience in treating this form of alopecia, have declared they have not noticed any direct effect from its use, except as it acts as a general tonic.

Since the time of Celsus, our main reliance has always been in local stimulation. In all methods of local treatment recommended, it will be observed that stimulation, in one form or another, is advised. That stimulant which will cause the greatest afflux of blood to the part, without over-stimulation, is the best. Epilation of the hairs adjacent to the patches is usually advocated, though I have not observed that it has hastened the cure.

Riendfleish speaks of the rapid improvement following the use of equal parts of tincture of capsicum and glycerin.

Sulphur is highly recommended. Unna says all cases are greatly improved by it in a short time, and completely cured under its long-continued use. Chrysarobin is well spoken of by Hutchinson. Such stimulants as tincture of capsicum, tincture of cantharides, and liquor ammoniæ are frequently recommended in combination, but, as Dr. Thos. Jackson says, there is no good reason for combining these remedies, since our object is simply to stimulate the hair bulbs. Faradization is a valuable remedy; I use it in all cases. Essence of cinnamon is highly extolled by French writers, but others who have used it, find it is not superior to the local stimulants in general use.

Dr. Molte has recently advised hypodermic injections of bichloride of mercury solution, 2:500. Four to six drops

are to be injected daily around the margin of each plaque.

The *prognosis* is influenced by the age of the patient and the duration of the disease—the younger the patient, and the shorter time the malady has lasted, the better the prognosis. Some cases may recover a few weeks after coming under observation; others may not get well for a year or more; but it can safely be predicted that nearly every case will recover in time, under appropriate treatment.

Let me here report several cases to illustrate the practical views I entertain on this subject:

CASE I.—Boy, sixteen years old. Six months ago noticed there was a sudden loss of hair near the centre of the scalp. Within a few days, a space about the size of a silver quarter of a dollar was completely denuded of hair. The patch is described as slightly reddened, shiney and smooth; since then several other plaques of disease have occurred during an interval of a few weeks. He had been treated for so-called ring-worm two years previously, but the locations of the disease were not exactly in the same situations as the bald patches he now has. The patient is in good general health. Faradization was employed every other day, and the following mixture painted on the patches twice a week:

R.—Chrysarobin.....grs. xxiv
 Acid salicylici.....grs. xij
 Liq. gutta percha.....℥ss—Mix.

As there was no improvement within six weeks, bichloride of mercury, one grain to the ounce, was substituted. After several weeks of this treatment, a few white hairs appeared. The hairs were eventually entirely restored, their growth being stimulated by a lotion recommended by Dr. Ohlman-Dumesnil—

R.—Resorcin.....℥j
 Naphthol.....℥ss
 Tinct. cinchona comp.....℥ij
 Bay rum.....℥vi—Misce.

CASE II.—Mr. B., twenty-one years of age. There had been a sudden appearance of a bald patch on the scalp four months previous to his visit to my office. Several patches appeared within one month, ranging in size from a silver dollar to a ten-cent piece. He had been treated with a variety of local applications; the parts had been several times blistered. At the time he came under my

observation, there was a slight growth of natural-colored laungo hairs over each plaque. Applied a solution of bi-chloride of mercury, one grain to the ounce, and hot water applications every day; faradization three times a week. The hairs continued to grow, till, at the end of three months, it could not have been told where the disease had existed.

CASE III.—German, forty-three years of age. When first observed, there was complete loss of hair over the whole scalp and eyebrows. He gave the history of a typical case of alopecia areata; there was sudden loss of hair over small circular areas, leaving smooth, glistening, anæmic surfaces. These patches coalesced as they grew larger till all the hair from his scalp fell out. He also stated that he had had a general eruption over the body, but it had not been called syphilitic nor had it ever returned. The patient was placed on anti-syphilitic treatment, and a variety of local applications were applied, but without the slightest effect. I have not seen this patient for two years, but understand he is still completely bald.

CASE IV.—Miss B., thirty-five years old. One year ago an engagement to marry was suddenly broken off; since then she has been in a highly nervous hysterical condition. One night, some six months ago, she had been kept awake by a most intense headache. The pain was concentrated about the supra-orbital region. In the morning, while combing her hair, she noticed quite a large quantity came away, and within ten days there were three complete bald patches—the largest about the size of a silver dollar, situated just above the forehead. Two small symmetrical patches were near the top of head, and one low down on the neck. She was given strychnine and arsenic; advised to take plenty of exercise in the way of horseback riding, frequent cold baths, followed by brisk friction and exercise. Once a week to the larger patch equal parts of tincture iodine, chloral and carbolic acid, as recommended by Dr. Bulkley, were applied. To the other patches, were applied a paint of chrysarobin, 10 per cent.; salicylic acid, 5 per cent. in traumaticine. For several hours after applying the iodine and chloral mixture, severe pain was complained of, but there was only a slight burning after each other application. In five weeks, fine, downy, natural-colored hairs first began to appear over the margin of the smaller patches. These are now completely covered with hair. Electricity was applied to all the patches. The larger plaque of disease

is at the present time entirely devoid of hair, as smooth and shining as when first seen.

CASE V.—Mr. C., thirty-nine years of age. Several bald patches appeared about the scalp during the month of November, 1893. The situation of these patches are almost identical with those in the previous case. The same treatment was instituted for about the same period of time. The small patches are now covered with fine white hairs, and there are a few white hairs around the margin of the larger patch.

In reporting these cases, it is with no idea of giving an account of brilliant cures, but rather to show the result of certain methods of treatment in a few cases, and to present to the Society an interesting subject for discussion.

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ART. IX.—Hives “As I See It.”

By BEN. BRODNAX, M. D., of Brodnax, La.

I have on several occasions been a little puzzled by finding in the writings of “specialists in diseases of the skin” the following heading: “Urticaria, Hives or Nettle Rash.” It seems impossible for any one who has studied at the bedside the common skin eruptions, to make such a mistake in classifying, as one, two that are so dissimilar, both in causation and appearance. I have thought either the city specialist has never seen a case, because most common in county districts, of hives (called by Rezin Thompson, M. D., in his “*Medical Adviser*,” strophulus), or they have taken the classification from some writer, and, without examination as to whether right or wrong, have copied it as a text for a dissertation on urticaria.

There are hardly to be found two diseases so very dissimilar—urticaria coming on suddenly from a disordered stomach, the other by a regular systemic disturbance.

The peculiarities of constitution in some who are affected by certain medicines, such as ipecac, quinine, etc.; others in whom foods of different kinds; others who cannot stand

certain animal odors, such as freshly killed beef, or the aroma of certain flowers, without having to suffer with an attack of more or less violence, all go to show that it is a form of nervous irritation. It comes on suddenly, in irregular shaped wheals, large and small, and often, by very simple treatment, as quickly disappears, leaving little or no trace of the terrible infliction and pain of a few moments previous. It is confined to no particular age, but is seldom found in those under a year old.

Hives, on the contrary, is preceded by a fretful unrest, at first a light fever, which soon becomes higher, more or less disturbance of the bowels, lungs, and bronchia. Very fine blisters, exceedingly small as to size, cover the entire body, with itching. After three or four days the fever subsides, skin becomes more natural in color, and scales off in very fine particles. In the majority of the cases the symptoms are not very severe, but I have seen a few in which the whole course was exaggerated, and convulsions were actually present or threatened, and difficulty of breathing amounted almost to suffocation. In five to eight days from first symptoms the troubles are mostly passed off.

This disease is confined to the first few weeks of infant life—rare before the second, and equally so after the ninth week. In fact, so much does it resemble measles of later life, that I have believed it to be a form of that disease, peculiar to that age, and have treated it in same manner. The treatment is simple, and a physician is not often specially called in to prescribe, the older ladies preferring to take entire charge and medication. But in severe cases, I give one-fourth grain doses of calomel until two grains are taken, one every half hour; afterward a bismuth mixture to relieve the bowels; a turpentine and oiled cloth on the chest; about four ounces of warm sage tea, with four or five grains of Dover's powder in it, one-half to one teaspoonful, as required, to help the throat and lungs. Some more sage or mint tea, weak with a little glycerin, a few drops of carbolic acid, or chloral hydrate, to quiet the itching about completes the list. I think about forty per cent. of all in-

phants have the complaint within the first six or eight weeks after birth.

These remarks are not intended as a criticism of the learned men of the profession so much as to urge the necessity of greater care in classifying, so that those who have to rely on their teachings and writings will not have the experience of a distinguished Southern physician, who remarked, "Many years of a doctor's life after he gets into practice are spent in *un-learning* that which he has spent years at college in trying to learn." All mistakes should be those of the type-setter.

ART X.—Night Air.

By EUGENE LEE CRUTCHFIELD, M. D., of Baltimore, Md.

LIFE FELLOW AND GOLD MEDALIST OF THE SOCIETY OF SCIENCE, LETTERS, AND ART, OF LONDON, ENG.; LECTURER ON APPLIED THERAPEUTICS IN THE BALTIMORE UNIVERSITY, SCHOOL OF MEDICINE, ETC.

An erroneous impression exists in the minds of many in regard to night air. They consider it injurious not only to go out of doors after the shades of evening have fallen, but also to breathe the obnoxious atmosphere. Holding this opinion, they close doors and windows so as to protect themselves from its baneful influence. If, however, a little thought were given to the subject, it would be easily seen that, after all their precautions, they are still inhaling night air. There is, then, no other with which they can supply their lungs. Not only are they breathing night air, but that which is every minute becoming more and more charged with carbonic acid gas. It would be far better were they to allow some ventilation in the room than to respire this mephitic air.

Florence Nightingale firmly held this view, that night air is the only air that we can then breathe. She said that "the choice is between pure air without and impure air within. Most people prefer the latter—an unaccountable choice. An open window, most nights in the year, can hurt

no one. In great cities, night air is the best and purest to be had in twenty-four hours. I could better understand, in towns, shutting the windows during the day than during the night."

In this latter statement she is supported by so eminent an authority as Dr. J. Milner Fothergill, M. R. C. P., of London, who says, in his work on "*The Maintenance of Health*," that "air is extensively contaminated by manufactories and chemical works, and in more limited areas by fumes in certain trades." Since manufactories and chemical works are not in operation, or, if so, only to a limited extent at night, and since trades are seldom followed during those hours, it is axiomatic that night air is less contaminated than the atmosphere of the day.

It is true that the malarial poison is more active at night than during the day, but this is no argument against night air in general. It applies only to districts in which malaria is endemic. Then, too, I do not see why it should cause any one to close the windows of sleeping apartments, since the danger of contracting malaria is much less in upper stories than on ground floors. The poison does not rise to any great elevation from the soil. Moreover, if we do keep out this *materies morbi* by shutting doors and windows, we are simply substituting one evil for another—carbonic acid gas, with its train of innumerable unpleasant sequelæ for malaria.

During the summer months, when, on account of the excessive heat, it is impossible or, at least, unadvisable, to take active exercise during the day, a long, gentle walk after night-fall will be found to be conducive to deep, natural, healthful sleep. Also during the winter, many persons would sleep better if, after attending church, a concert, or a lecture, they would walk home instead of riding. They would thus give their lungs a chance to get rid of the carbon dioxide inhaled during the evening, and replace it with pure oxygen.

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ART. XI—The Toilet Treatment of Nasal Catarrh.*

By J. M. MASTERS, M. D., Knoxville, Tenn.

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The nose is one of the most important organs of the body as well as one of the most conspicuous. Its functions are multiplied and indispensable; and while it is one of the oldest and most effective cosmetics, it is held in derision, slandered, blown about with impunity and a recklessness that is sometimes to be shunned. Yet, notwithstanding the many slights and humiliating neglect which it endures, it stands like a sentinel in the face of its enemies, flanked on either side by the most cheeky adversaries, and suffers endless indignities and abuses before it will run. It is to defend the rights, secure justice and restore the respectability of this beneficent but traduced member of the human family that we take up its toilet as a subject for discussion.

The functions of the nasal passage are of such vital importance to the health of the individual, that a knowledge of the anatomy and physiology of the structures of these cavities should be familiar to the laity as well as the profession. Perhaps the facts upon which we shall lay claim for treatment of nasal affections can be more clearly presented by first referring to the special duties to be accomplished by the nasal canals.

The principal functions of the nasal cavities are breathing, smelling and acting as resonant chambers for the voice. Of these, breathing is of the greatest importance to the health of the person. In almost every instance nature has provided protection against injury to the body from extraneous causes, and no where is this protection more complete than in the nasal cavity.

That the blood may be properly aerated and the larynx and lungs remain uninjured from contact with the atmosphere, a sufficient amount of pure air of the proper moisture and temperature must be inhaled. If all air was pure, of

*Read before the East Tennessee Medical Society, May, 1894.

suitable and uniform temperature, precise and unvarying humidity, then some of the organs of the nasal passages would be superfluous. The cilia of the vestibule, the turbinated bodies, the turbinated corpora cavernosa, the mucous and serous glands would be useless structures. But these ideal atmospheric conditions do not prevail; hence nature has placed these appendages in the nasal passage to purify, warm and supply moisture to the air, and render it non-irritating to the larynx and lungs.

The cilia of the vestibule sieve the air and arrest the larger particles of floating substances; the projecting turbinated bodies retard the current of air, allowing more time for the absorption of heat and moisture as it passes through these canals. The viscid mucus secreted by and covering the Schneiderian and pharyngeal mucous membrane arrests the finer particles of foreign matter, so that air inhaled through healthy nasal cavities is prepared for entrance into the lungs.

The very functions of the nasal cavities implies that they are constantly exposed to atmosphere of varying degrees of humidity and temperature, and more or less impregnated with foreign substances. These atmospheric conditions tend to produce inflammation of the mucous membrane of the nose. This naturally suggests the chief causes of catarrhal affections of the nasal passages. Among those just mentioned are irritating substances inhaled; dust; smoke; fumes of caustic acids; poisonous powders; the excessive use of alcohol; smoking, especially if the smoke be inhaled through the nose; methods of heating and ventilating houses, that cause a too dry atmosphere or deprive the air of a portion of its oxygen, as many of the modern heating appliances do.

Living in and breathing air thus deprived of its moisture and oxygen causes too rapid evaporation of the serous secretion of the nasal mucous membrane. This requires an increased flow of blood to the parts to furnish the serous glandular system with fluid to compensate for this unnatural demand upon their functions.

Late hours of dissipation and nervous excitement, excessive venereal indulgence, either of the natural or imaginative variety, patent catarrhal remedies, face powders, smelling salts, etc., but more than to all other causes, rhinitis is due to neglect and an unsanitary condition of the nasal cavities, both in children and adults.

The natural secretions of the nose, if allowed to remain in the cavities, soon become decomposed and irritating, causing congestion and inflammation. Many of the chronic cases of rhinitis begin in infancy, caused by neglect of the nasal organ. The nasal cavities are frequently allowed to contain inspissated and decomposed secretions for weeks and months. The ciliated epithelium lining the respiratory tract of the nasal passages carries the secretions forward toward the vestibule, when the desire to blow the nose is experienced, which should be heeded just as promptly as the demand to evacuate the bladder or bowels.

Children should be taught at a very early age to blow the nose and give it the most careful attention. A child eight or ten months old can be taught to blow its nose, and thus free the cavities of secretions, which will become irritating and offensive if not removed. The mother or nurse, should give as careful attention to keeping the child's nose clean as any other part of its body. How often do we see children with the nasal cavities so full of the mucous secretion as to obstruct nasal breathing, when nothing but neatness and cleanliness is required to relieve the whole trouble? This attention to the cleaning of the nasal cavities should be a part of the daily toilet of both children and adults.

Especially is this imperative with inhabitants of cities, where the air is loaded with all manner of foreign substances. These become lodged in the nasal cavities in such abundance that the normal secretion of the nose is of itself incapable of removing them, and they will remain until dislodged by artificial means. It is a mistake to think that when the vestibule of the nose is kept clean that the entire nasal track is free from accumulations. At least twice each day the nasal cavities should be thoroughly washed out

with some mild alkaline solution. This is especially beneficial at night; then the membrane is freed from substances which have accumulated during the day, and the air of the house being freer from the dust and smoke filling the street or workshop, the mucous membrane is given, during the night, an opportunity to recuperate from the irritation due to the exposure of the day. If the occupation of the individual exposes him to unusually foul atmosphere, this ablution of the nasal cavities should be repeated at least three times during the day. If the same care was given to the toilet of the nasal canal that is given to the hands and face, with people of temperate habits, rhinitis would be a rare affection.

The washing out of the nasal passages need not be troublesome or expensive. After the hands and the face have been washed, a pint of clear tepid water, which has been rendered very slightly alkaline, can be put in the wash vessel. This can be dipped up with the hands and snuffed through the nose. This should be followed by moderate blowing of the nose, and the process repeated sufficiently often to thoroughly cleanse the nasal cavities.

The temperature of the water to be used may vary somewhat, to suit the feeling of the individual, but should always be warmer in summer than winter. Hot douching should not be practiced. If desired, instead of the simple method recommended, a spray apparatus may be kept in the toilet room, and used to cleanse the nasal cavity. If the washes are too hot, the mucous membrane is rendered more susceptible to the action of the air, and the contracting of a cold may result. The temperature should always be twenty degrees below that of the body. This soon accustoms the nasal mucous membrane to withstand lower degrees of temperature, and makes it more resisting to atmospheric changes.

The toilet of the nasal passages, if regularly and thoroughly practiced, will not only cure most cases of inflammation of this part, but will prevent its development in

most persons whose habits of living conform to the laws of health.

There is scarcely any medical subject or disease about which such universal and mistaken opinions prevail as on the subject of nasal catarrh. Not only do the laity regard this affection as radically differing from inflammations of mucous membranes in other localities, but the same opinion seems to be prevalent with the profession. The laity receives its medical information from the advertising columns of newspapers; and so constant and voluminous is this character of reading-matter, that errors, the most absurd, are indelibly fixed in the minds of the masses of the people. So adroitly are these advertisements written, that to the uninformed they appear to be the deductions of scientific research, and, when necessary to create a demand for some nostrum, the disease or diseases for which it is extolled are described in the most graphic manner. Even the symptoms of health are distorted into the most ominous forebodings of disease. Miles upon miles of this debauching literature has been written upon catarrh. The disease has been depicted in all the hideousness that a fertile brain, paid for composing advertisements, is capable of creating. The word catarrh to a newspaper educated layman is a synonym for all that is loathsome and abhorrent, and is always understood to refer to an affection of the nasal cavities or head, and to-day thousands of individuals think they are victims of this disease whose Schneiderian membranes are normal. While it is true that a large per cent. of individuals, especially those in cities, have some degree of inflammation of the nasal tracts, many imagine they are thus affected, and, deluded by this belief, resort to the use of patented stuffs, which very often produce the disease that they are guaranteed to cure.

And here is an opportunity to speak of an opinion held both by the laity and profession, that catarrh is incurable. But, before discussing this point, we wish to state that rhinitis, with the exception of cases due to specific disease, is one process, the various forms described by text-books

being only different stages of the same affection. As to curability, any catarrhal condition, due to ordinary causes, where actual change or a destruction of tissue has not occurred, is curable. The difficulty does not exist in any malignancy of the affection, but in our inability to remove or modify the causes, which have excited and keep up the inflammation.

The principal causes being uncleanness of the cavities and the dissipated habits of the individual, emphasize the imperative necessity of thorough cleanliness and correct living for the successful treatment of this disease. Cause the patient to go to bed at an early hour; take from seven to nine hour's sleep in a well ventilated department. Withdraw stimulants and narcotics; substitute nutritious and digestible food. Restrict sexual indulgence within physiological limits; keep the respiratory tracts free from all accumulations, and the entire nasal organ out of other people's business, and catarrh, instead of being one of the most common of chronic affections, will be reduced to infrequent mild acute attacks, which will soon recover.

We do not wish to bring in this paper the discussion of syphilitic or scrofulous rhinitis, the principal object of the paper being to impress the importance of nasal sanitation as a preventive and curative means for simple acute or chronic catarrh. It is impossible to cover all the ground of such a subject in a short essay. But a few words as to additional measures for relieving simple chronic nasal catarrh, and the later stages of the affection—hypertrophic and atrophic rhinitis. In addition to thorough and frequent cleansing of the nasal cavities, in chronic rhinitis, where the turbinated bodies are turgescient, filling more or less the respiratory tract, and obstructing nasal breathing, following the ablutions, protectives should be applied to the mucous membrane. These may be perfectly bland, as vaseline, or the application may contain an astringent, if required. The objects to be obtained are to remove and prevent irritation and contract the dilated blood vessels; to restore the tone of their muscular walls, so that they can

regulate their calibre and reduce the flow of blood to a normal quantity. And in this way, by removing hyper-nutrition of the mucous membrane, we lessen the hyper-secretion of the serous and mucous glands.

If these objects are secured and maintained, which they can be, the nasal mucous membrane returns to its normal condition. But when this condition is attained, and medication is no longer required, *the toilet must be persisted in*. If healthy nasal cavities are desirable, and are to be enjoyed, then it becomes a part of life's work to treat them decently.

Before closing this paper, I desire to refer to some practices in the treatment of nasal inflammation which we consider abusive and extremely harmful. Whatever may be the stage of catarrh—whether chronic, hypertrophic, or atrophic—care should be exercised not to destroy any tissue that can be restored to a healthy state. There are, in the first place, many mistakes made in the diagnosis of the stage of the affection, and the exact pathological condition of the membrane. Hypertrophic rhinitis is comparatively a rare affection; swollen, engorged turbinates are often mistaken for hypertrophied bodies. Chronic catarrh may exist many years without resulting in hypertrophy. The practice to which we wish to allude, for the purpose of condemning, is the destruction, by caustic acids, snares, or the actual cautery of the turbinated bodies. An individual who has lost the turbinated bodies, either from disease or destructive treatment, is in a deplorable and irremediable condition. Even in hypertrophic rhinitis, when it becomes necessary to cause contraction of the hypertrophied bodies by cauterization, only a small area should be burned to produce a limited cicatrix. This, by its contraction upon the surrounding tissues, will cause an absorption of the new elements, and a lessening of the turbinated corpora cavernosa. When the turbinated bodies have been removed by operation, the same condition exists that will eventually result when the disease has passed through the atrophic stage. The nasal passage then becomes but patulous tubes through which air rushes into the lungs without being purified, warmed, or in

any way prepared for contact with the lung tissue. Such a condition soon results in follicular laryngitis, irritative cough, bronchitis, and if any latent tuberculosis exists, it is fanned into activity, so that the man's latter condition is worse than the first. Conservative surgery and treatment of the nasal cavities are always most rational and beneficial; and the careless or ignorant destruction of the structures of these passages for the cure of catarrh, should be denounced in the strongest terms.

Clinical Reports.

Unusual Growth of an Impregnated Ovum.

By W. A. BOLLING, M. D., of Pocahontas, Va.,

ASSISTANT PHYSICIAN AND SURGEON SOUTHWEST VIRGINIA IMPROVEMENT COMPANY;
EX-ACTING ASSISTANT SURGEON U. S. MARINE HOSPITAL SERVICE, ETC.

On April 17th, I was called to see a lady, æt. 24, who gave the history of impregnation nine weeks, health good, save constipation and an occasional headache. At the time of my visit she was suffering quite severely with pains in the lower portion of the abdomen and back; flooding considerably; great solicitude and anxiety; with strong, bearing down pains. Upon examination, clots were found lying in the vagina, the os tinæ slightly patulous. Fluid extract viburnum and fluid extract ergot, in 20 drop doses every two hours, was prescribed. Upon a second examination, four hours later, the product was found lying in Douglas' cul-de-sac, and was easily removed. The membranes were intact, but presented a very peculiar condition; the amniotic fluid was enveloped in a sack of fatty degeneration, having the appearance of a tumor, yellow in color, and covered with velvety prolongations of fat; to the upper portion of this sack, or tumor, was attached the resemblance of a cord, surrounded by mucous shreds, the whole being about three inches in length and weighing about six grains. No visible product could be discovered in the amniotic fluid. My conclusion was that this abnormal growth acted as a foreign body and was fortunately thrown off before any further enlargement took place. The patient made an easy and perfect recovery, and is now enjoying unusually good health.

No. 50 Water St.

*Correspondence.***Proprietary Medicines—How Far Can They be Recognized?**

Mr. Editor,—There is a question of importance to the medical profession which seems to be silently passed by in all the discussions of medical societies and tacitly submitted to by the profession generally. This question involves not only the financial interest, but has a tendency to sap the very foundation of all ethics or rules which bind us as brothers in this noble profession. The question is how far the profession can recognize the manufacture and sale of proprietary medicine.

There has always been a prejudice and contempt for the quack or vender of nostrums, but now if he will publish the constituent parts of his quack or nostrum remedies, he is received into the family profession as one of the members, and many of the profession will carry with them and prescribe his remedies, and in some cases give a certificate of its wonderful effect. Even the graduate who has been honored with M. D. will so far forget his obligations as to sacrifice the honor upon the altar of gain and publish to the world the wonderful compound he is preparing and selling for the alleviation of human suffering. And the druggist, who is dependent upon the profession for much of his support, is taking advantage of the information which he acquires through the patronage of the profession, prescribing and compounding remedies for all classes of diseases, and, with flaming advertisements and premiums offered, doing everything he can to enhance his own financial interest at the sacrifice of the reputation and profit of those who have devoted their money and time to acquiring the knowledge necessary to prepare themselves to battle with disease and successfully treat cases which had fallen into the hands of these charlatans. Those who have acquired reputation and established a profitable living may rest upon their oars in safety, but he who is starting out in the midst of the storm and strife which the contending elements threatens to destroy, can ill-afford to silently look on and listen to the muttering thunders in the distance until their citadel is undermined and the enemy taken possession.

This is no fancy sketch, but a reality, and there are few, if any, in the profession who have not had to assume the responsibility of cases when important time had been lost and the patient beyond the skill of the physician, who had been trying these quack nostrums or proprietary medicines.

Staunton, Va., June 4th, 1894.

M. D.

Proceedings of Societies, Boards, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

SPECIAL SESSION—JUNE, 1894.

LYNCHBURG, VA., June 19th, 1894.

According to announcement in due form, to comply with the requests of many for *temporary licenses* to practice medicine, etc., in Virginia, a *Special Meeting* of the Medical Examining Board of Virginia was held in Lynchburg, Va., June 19-21, 1894. Although each applicant for *temporary license* was notified in full time that this *special meeting for examination of such applicants* as had not been able to attend the *Spring Examinations* in Richmond, Va., April, 1894, would be held in Lynchburg at the time named, not more than one-third of such applicants presented themselves for examination. As this *Special Examination* was appointed to do away with the issue of temporary licenses, and as the *Regular Semi-Annual Examinations* will be held in Richmond, Va., beginning at 9 A. M. Tuesday, October 23rd, 1894 (see advertisement in this issue of this journal), very special circumstances must arise to warrant the consideration of any further applications for temporary permits until the examinations to be held in Richmond, October 23rd and 24th, 1894.

The meeting of the Board, for the consideration of the *Questions* to be used in the examinations beginning at 9 A. M. June 20th, was called to order by the Secretary, Dr. Benj. Harrison, of Richmond, Va. In the absence of the President (Dr. Rawley W. Martin, of Chatham, Va.), Dr. J. E. Chancellor, of Charlottesville, Va., was called to the chair.

The minutes of the preceding meeting (April, 1894,) were read and approved.

Drs. J. E. Chancellor, of Charlottesville, R. S. Martin, of Stuart, John W. Dillard and C. M. Blackford, Jr., of Lynchburg, and Benj. Harrison, of Richmond, were present at roll call. Several other members attended later in the session.

After the selection of the following *Questions for Examination*, the Board adjourned till 9 A. M. Wednesday, June 20th, 1894:

Examinations held June 20th and 21st, 1894.

I.—SECTION ON CHEMISTRY.

(Wednesday, 9 A. M. to 12 M.)

Ques. 1. Give the law governing chemical combination.

Ques. 2. Give the chemical formula of peroxide of hydrogen, its physical and chemical properties, and uses.

Ques. 3. Give a complete history of arsenic, with two reliable tests for same.

Ques. 4. Describe potassium hydrate and nitrate, their artificial preparation, and give their properties and uses.

Ques. 5. Define the terms aldehydes, amins, and amids, naming one of each.

Ques. 6. What is meant by the terms organic and inorganic chemistry?

II.—SECTION ON ANATOMY.

(12 M. to 3 P. M.)

Ques. 1. Name and describe the ligaments of the knee-joint.

Ques. 2. Give the attachments, vascular and nervous supply of the serratus magnus, soleus and pectoralis major muscles.

Ques. 3. Give the relations of the right common carotid artery.

Ques. 4. Locate and describe the circle of Willis.

Ques. 5. Give the superficial origin, foramen of exit, course and distribution of 7th or facial nerve.

Ques. 6. Name the coverings in oblique inguinal hernia.

III.—SECTION ON (I.) HYGIENE AND (II.) MEDICAL JURISPRUDENCE.

(4 P. M. to 7 P. M.)

I.—HYGIENE.

Ques. 1. Give the precautions necessary and the means of preventing infection from consumption and typhoid fever.

Ques. 2. What is meant by disinfection? Name chief agents employed, with manner of using same in reference to the sick, the attendants, and quarters.

Ques. 3. Give the different modes of disposing of sewage, with the advantages and disadvantages of each.

II.—MEDICAL JURISPRUDENCE.

Ques. 1. Give the uncertain and the certain signs of pregnancy in the living, and the proof in the dead.

Ques. 2. State duty of medico-legal witness in case of a body found dead with a wound, suspected poisoning, or unknown cause.

Ques. 3. Define abortion legally. How divided, and proof of same in living and dead.

IV.—SECTION ON PHYSIOLOGY.

(8 P. M. to 11 P. M.)

Ques. 1. Give the structure and uses of adipose tissue.

Ques. 2. Give the chemical composition of urine, and mention the coloring matter of the same.

Ques. 3. Mention ten special centres located in the medulla oblongata.

Ques. 4. Describe the structure and position of the spinal cord—number of spinal nerves—number of roots of each nerve with their function.

Ques. 5. Give location, roots, and distribution of the sub-maxillary ganglion.

Ques. 6. Describe the aqueous humors and the vitreous body, giving function of each.

V.—SECTION ON MATERIA MEDICA AND THERAPEUTICS.

(Thursday, 9 A. M. to 12 M.)

Ques. 1. Define antiseptics, disinfectants, deodorizers. Give examples of each.

Ques. 2. Give source and physiological action of opium in full and lethal doses, with antidotes. Give dose of six preparations of opium.

Ques. 3. Give two examples of each of the following, with dose: (a) agents increasing waste; (b) cerebral excitants; (c) anthelmintics; (d) hydragogue cathartics.

Ques. 4. What are the therapeutic uses of the iodides and bromides? State the evil results that sometimes attend their protracted use and the means used to prevent them.

Ques. 5. What are the indications by which we know that opium, strychnia, and arsenic are beginning to produce their toxic effects.

Ques. 6. Name those drugs that destroy and those that aid in the construction of the red corpuscles of the blood.

Ques. 7. What remedies are used as arterial sedatives, and state the limitations to their use?

Ques. 8. Criticise minutely the following :

R—Hydrarg. chlo. mite..... gr. x
 Strychniæ sul..... gr. iij
 Potass iodide..... ʒvj
 Tr. ferri chloridi..... ʒj
 Tr. cinchona c..... q. s. ad. ʒiv

M. Sig.—Dose, teaspoonful.

VI.—SECTION ON OBSTETRICS AND GYNÆCOLOGY.

Ques. 1. Describe the ligaments of the uterus, its relations and blood supply.

Ques. 2. Give methods of ascertaining the various positions of fœtus at term.

Ques. 3. Give management of labor in occipito-posterior positions.

Ques. 4. What are the indications for instrumental delivery? Describe hygienic measures necessary both before and after such delivery.

Ques. 5. From what sources may post-partum hæmorrhage proceed, and how treated?

Ques. 6. Diagnosis between fibroid and ovarian tumor.

VII.—SECTION ON PRACTICE OF MEDICINE.

(4 P. M. to 7 P. M.)

Ques. 1. Describe the symptoms of membranous croup, with medical and surgical treatment.

Ques. 2. Give the differential diagnosis between tubercular and cerebro-spinal meningitis.

Ques. 3. Give the physical signs in the incipient stage of phthisis pulmonalis.

Ques. 4. Give the physical signs of acute pneumonia.

Ques. 5. Give diagnosis and symptoms of uræmic coma.

Ques. 6. Give pathology of acute nephritis.

VIII.—SECTION ON SURGERY.

(8 P. M. to 11 P. M.)

Ques. 1. Define inflammation, and give the pathology of the same.

Ques. 2. Give the diagnosis and treatment of acute synovitis.

Ques. 3. Give the symptoms, diagnosis and treatment of carcinoma of the mammary gland.

Ques. 4. Give definition, causation, varieties and treatment of gangrene.

Ques. 5. Define hernia and hydrocele, and differentiate an inguinal hernia from hydrocele; also give the treatment for hydrocele.

Ques. 6. Give causes and treatment of ununited fracture.

ALPHABETICALLY ARRANGED LIST OF THE APPLICANTS FOR EXAMINATION
TO WHOM LICENSES WERE GRANTED TO PRACTICE MEDICINE IN VIRGINIA,
AFTER DUE EXAMINATION JUNE 20TH AND 21ST, 1894, WITH THEIR
POSTOFFICES, COLLEGES AND YEARS OF GRADUATION.

Beard, H. S., Clifton Forge, Alleghany Co., Univ. of Va., 1893.

Davidson, C. H., Charlottesville, Va., Univ. of Va., 1894.

Davis, E. D., Rippon, Jeff. Co., W. Va., Univ. of Md., 1894.

Flannagan, R. K., Charlottesville, Va., Univ. of Va., 1894.

Jones, J. Bolling, Matoaca, Chesterfield Co., Med. Coll. of Ohio, 1893.

Sims, G. K., Louisa, Va., Univ. of Va., 1894.

Stevens, A. C., Patterson, Wythe Co., Univ. of Md., 1891.

Sutton, S. H., Norfolk, Va., Univ. of Md., 1894.

Thurman, F. Lee, Eastham, Albemarle Co., Univ. of Va., 1894.

Nos. of exami- nation papers.	LIST OF INSTITUTIONS Whose Graduates were Rejected by the Med. Exam. Board of Va., at its Special Meeting, June, 1894, With Percentage Marks re- ceived in each Section.	Chemistry.	Anatomy.	Physiology.	Hygiene and Med. Jurisprudence.	Materia Medica and Therapeutics.	Obstetrics	Practice.	Surgery.	Total.	Average percentage	Remarks.
	COLLEGE OF GRADUATION.											
1	College Phys. & Surg., Balt...	60	54	51	85	85	75	70	50	530	66 $\frac{1}{4}$	
6	Non Graduate.....	50	38	65	77	65	48	70	43	456	57	

INSTITUTIONS REPRESENTED BY THE APPLICANTS WHO CAME BEFORE THE MEDICAL EXAMINING BOARD OF VIRGINIA, IN SESSION AT LYNCHBURG, VA., June 20th, 1894.				Total Number Applicants from each College.	Total number Applicants Licensed from each College.	Total Number Applicants Rejected from each College.	Withdrawals.
University of Virginia, Charlottesville.....				5	5	.....	.....
University of Maryland, Baltimore.....				3	3	.....	.....
College Physicians and Surgeons, Baltimore.....				1	.....	1	.....
Medical College of Ohio, Cincinnati.....				1	1	.....	.....
Non-Graduates.....				1	.....	1	.....
Totals.....				11	9	2	.....

BALTIMORE MEDICAL ASSOCIATION.

[EUGENE LEE CRUTCHFIELD, M. D., Secretary.]

Meeting April 9th, 1894. Dr. Chas. H. Jones in the chair.

Dr. Harry Friedenwald read a paper on

Blennorrhœa Neonatorum in Utero.

Notwithstanding every precaution, some cases of blindness will occur. When they do, he thinks that it is due to the cause that operated in the case that he was about to describe. He then reported a case in which pus was observed in the eyes of a child one hour after birth with a haziness of the cornea of both eyes. Such cases are rare, but similar ones have been reported by others. In some of these the bag of waters had ruptured two or three days before the birth of the child. In Dr. Friedenwald's case it had broken only three or four hours before birth. In some it has occurred even when the bag of waters did not rupture at all before birth. It is supposed that the poison (gonococci) penetrated the membranes. This explanation is not satisfactory. In these cases we have the most virulent type of the disease. In Dr. Friedenwald's the mother was a syphilitic, having chancroids and venereal warts upon the genitalia. For prophylaxis, wash the genital organs of a woman having leucorrhœa or any similar trouble.

Dr. Samuel Theobald read a paper on

Eye-Strain as a Factor in the Causation of Chorea.

The importance of the subject has undoubtedly been exaggerated. Still there is a tendency on the part of others to undervalue its significance. Out of 1600 cases of refraction work in his practice 11 were put down as chorea, but some of these were not cases of true chorea; in some only the orbicularis muscle was affected, some were facial, and others were chiefly facial. Of these eleven cases seven were children, four were adults, six males, five females, one was a negro man with only the orbicularis muscle affected, nine were cases of astigmatism, one of myopia of high degree, and greater in the right eye, and one was of hypermetropia of low degree. Glasses were prescribed. Results are not known in all. Some were cured, some ameliorated, and some not benefited. The evidence is conclusive that chorea is sometimes, though rarely, caused by eye-strain. Chorea thus caused is most frequently facial.

In the discussion that followed, Dr. Herbert Harlan said he agreed with Dr. Theobald, that eye-strain does occasionally cause chorea. Related case of facial chorea in an old man, seen in Dr. Steven's office in New York. The condi-

tion had lasted twenty years. He spoke of cases of chorea seen in the University of Maryland *cliniques*, and the treatment pursued. Recalls two cases of chorea caused by eye-strain seen during the present year.

Dr. John I. Pennington was glad that Dr. Theobald has brought this subject to the attention of the general practitioner. We see more cases of chorea than the oculist. He has noticed that many choreic patients wear glasses, but he is unable to say what was the error of refraction. In regard to Dr. Friedenwald's case, does not blennorrhœa sometimes occur from other causes than gonorrhœa?

Dr. Friedenwald reported *case of one-sided choreic movements, with error of refraction*, but the use of glasses did not relieve the trouble. Asked Dr. Theobald if any internal treatment were used. Dr. T. replied, "No." In reply to Dr. Pennington's question, *leucorrhœa* and gonorrhœa were causes.

After Dr. J. D. Farrar read a paper on,

Permanganate of Potassium and Sulphate of Zinc as an Injection in Gonorrhœa,

Dr. J. D. Blake stated that he was glad to hear such favorable reports from Dr. Farrar, but he thinks that the time that has elapsed since the treatment was instituted is not sufficient to know whether or not they are real successes. Does not agree with Dr. Farrar in regard to evacuating the bladder after the injection. It should be done before the injection. Even then the character of the urine may be such as to alter the chemical nature of the injection. Therefore, after the passing of the urine, he injects hot water into the urethra, and then the medicated solution.

Dr. E. D. Ellis remarked that Dr. Farrar did not lay much stress upon internal treatment. This is a mistake. Wishes to say a good word for copaiba. He now gives an alkali in combination with copaiba.

Dr. W. A. Duvall orders water as hot as can be borne as an injection with alkaline solution.

Dr. Farrar says his patients complain of nausea from copaiba.

Dr. David Streett asked if any members had seen cases of typhoid fever lately. He had heard of quite a number within last two weeks. Saw one case this evening.

Dr. John Neff remarked that he was not surprised that there should be typhoid fever in the city, owing to the bad state of the drinking water.

Book Notices.

Care and Feeding of Children. By L. EMMETT HOLT, M. D., Professor of Diseases of Children in New York Polyclinic, etc. New York: D. Appleton & Co. 1894. Cloth. 12mo. Pp. 66. Price, 50 cents. (For sale by West, Johnston & Co., Richmond.)

We cannot understand why so many family physicians neglect their plain and obvious duty in failing to impress upon mothers and those employed as children's nurses the importance of reading such an authoritative little book as this. It teaches the mothers better than the doctor who only visits the family occasionally, and prevents them from adopting all sorts of quackery advertised in papers and magazines daily read by them. The little book calling for these remarks is "a catechism for the use of mothers and children's nurses," written in the simplest of language, and is generally authoritative, practical, and very serviceable to those who have charge of infants. We wish we could induce doctors generally to persuade those of their patrons who have infants to buy and study such an excellent book as this one.

Essentials of Refraction, and the Diseases of the Eye. By EDWARD JACKSON, A. M., M. D., Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc. *Constituting Part I. Essentials of Diseases of the Nose and Throat.* By E. B. GLEASON, S. B., M. D., Surgeon-in-charge of the Nose, Throat and Ear Department of the Northern Dispensary of Philadelphia, etc. *Constituting Part II. Second Edition, Revised; 124 Illustrations.* Philadelphia: W. B. Saunders. 1894. 12mo. Pp. 290. Cloth. Price. \$1.

Part I of this No. 14 of "Saunders' Question Compend," devoted to refraction and eye diseases, takes up 145 pages; while *Part II*, relating to "Diagnosis and Treatment of Diseases of the Nose and Throat," claims the remainder of this remarkably cheap book. The careful accuracy with which the first edition of these "Essentials" was compiled has rendered unnecessary any material correction or addition of pages. Simply some slight re-arrangement of chapters, with a few interlineations to include facts deemed helpful to the student, constitute this revision of the first edition. Such a claim very evidently shows with what care the first edition was made ready for the printer.

International Clinics: A Quarterly of Clinical Lectures.

Edited by JUDSON DALAND, M. D., Philadelphia; J. MITCHELL BRUCE, M. D., F. R. C. P., London, Eng.; DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Scotland. VOL. I. *Fourth Series*. 1894. Philadelphia: J. B. Lippincott Co. Cloth. 8vo. Pp. 358. \$2.75. (Sold only by subscription.)

This work is a quarterly publication of lectures by the ablest of clinical Professors in England, Canada, the United States, etc. Every section and every specialty is represented. In the volume on our table, we find well prepared lectures by Professors Hunter McGuire, of Richmond, Va., J. McFadden Gaston, of Atlanta, Ga., Lewis A. Sayre, of New York, Henry T. Byford, of Chicago, Alex. J. C. Skene, of Brooklyn, G. E. de Schweinitz, of Philadelphia—besides hosts of others of the great doctors of this and trans-Atlantic countries—on subjects on which they are recognized the world over as authority. These lectures are so well presented by the Editors that the reader who knows the authors may easily suppose he is hearing the Professors themselves. We know of no attempt to publish a volume of recently delivered clinical lectures that is more useful to the practitioner.

International Medical Annual and Practitioners' Index. By

FORTY EDITORS AND CONTRIBUTORS. 1894. Twelfth Year. New York: E. B. Treat. 8vo. Pp. 704 \$2.75.

This Annual "Work of Reference for Medical Practitioners" is undoubtedly a great improvement upon its predecessors—as excellent as each of them has been. As to controvertible points, as far as possible, the authors of the original papers have been made direct contributors to this volume, in order to have their views represented absolutely correctly. That the *Annual* may cover the widest possible field, the Forty Editors, etc., have been selected from the United States, England, Ireland, Scotland, and the continental countries generally. The illustrations consist of 39 full page Plates and 70 wood cuts, nearly all being original from photographs or direct drawings. This volume brings together the best of last year's advances, and is divided into the following sections: Dictionary of New Remedies and of New Treatment, Sanitary Science, Progress in Pharmacy, New Medical and Surgical Appliances, Publications of the Year, etc. The General Index is very thorough, which is a great recommendation. In short, this work would be very valuable to any practitioner who reads it.

Lectures on Auto-Intoxication in Disease, or Self-Poisoning of the Individual. By CH. BOUCHARD, Professor of Pathology and Therapeutics, and Physician to the Hospitals, Paris. *Translated, with a Preface,* by THOMAS OLIVER, M. A., M. D., F. R. C. P., Professor of Physiology, University of Durham. 8vo. 302 pages. Extra Cloth, \$1.75 net. Philadelphia: The F. A. Davis Co., Publishers. 1894. (For sale by J. W. Randolph Co., Richmond.)

These lectures may be regarded, as the Translator puts it, as "an inquiry into the operation of poisons introduced from without or generated within the body of man, and the part they play in health and disease." It is one of the most interesting books to the practitioner who seeks to know causes and effects of disease that we know of. After describing the principal pathogenic processes, it tells of the production and elimination of poisons by the organism—taking up first the toxicity of urines, then of the blood and tissues; then of bile and the products of putrefaction, etc. Lecture X is exclusively on intestinal antisepsis. Pathogenesis of uræmia, of typhoid fever, of jaundice, of cholera, etc., are other subjects most instructively discussed—all concluding with a chapter on the general therapeutics of self-poisoning. The book is divided into thirty-two lectures, which cannot be scanned, but each one must be read with attention. It gives to all the subjects involved under the titles of ptomaines, toxins, etc., a clear understanding. The Preface to the work possesses the rare merit of being, to all intents, a summarizing essay of the subject. We know of no book that can take its place.

Essentials of Physics. By FRED. J. BROCKWAY, M. D., Assistant Demonstrator of Anatomy at College of Physicians and Surgeons, New York, etc. *Second Edition, Revised. With 155 Illustrations.* Philadelphia: W. B. Saunders. 1894. Cloth, 12mo. Pp. 330. Price, \$1 net.

This is No. 22 of "Saunders' Question-Compends," arranged in the form of questions and answers, prepared especially for students of medicine. This second edition contains, as the chief element of its revision, the addition of some material taken principally from Barker's *Physics* and Poyser's *Magnetism and Electricity*. This volume, being revised to date, is one that practitioners should have as well as students, for many doctors want often reminders of physical facts—the exact details or principle of which have been more or less forgotten.

Essentials of Anatomy. By CHARLES B. NANCREDE, M. D., Professor of Surgery and of Clinical Surgery in the University of Michigan, etc. *Fifth Edition, with an Appendix on the Osteology of the Human Body—the whole Based on the Last Edition of "Gray's Anatomy."* 180 Fine Illustrations. Philadelphia: W. B. Saunders. 1894. Cloth, 12mo. Pp. 388. Price, \$1. Interleaved for notes, \$1.25.

This last edition of "Saunders' Question-Compends," No. 3, "including the anatomy of the viscera, arranged in the form of questions and answers, prepared especially for students of medicine," is a reprint of the fourth edition, published in 1891. The fact that it is but a reprint shows how well the author did his work a few years ago, and also shows that no essential advance for the college student has been made in several years. This volume thus possesses all the merits of the best of the entire series of "Essentials" as included in "Saunders' Question-Compends," and as such cannot be too highly recommended to those who may need such a work.

Weekly Abstract of Sanitary Reports. *Issued by the Supervising Surgeon-General Marine Hospital Service* Vol. VIII (Nos. 1-52). Washington: Government Printing Office. 1894. 8vo. Pp. 1340.

Dr. Wyman, aided by Dr. George T. Vaughan and others of his office, deserve great credit for the *Weekly Abstracts* under the National Quarantine Acts, etc. If there was a doubt as to the special value to a country as large as the United States of the centralization of information, no one can longer be a skeptic, for undoubtedly by the information received in the surgeon-general's office from all parts of the world this country was enabled to prevent an epidemic of cholera. It is an illustration of "knowledge is power."

Year-Book of Treatment for 1894. By TWENTY-FOUR ENGLISH PRACTITIONERS. Philadelphia: Lea Brothers & Co., 1894. Demi. 8vo. Pages 492. Cloth. Price, \$1.50.

This *Year-Book*—the tenth of the series—has two new departments, one of "Medical Diseases of Children," and the other of "Bacteriology"—both of which are valuable additions. The book is in every respect well arranged, and while it quotes sometimes from American authors, it especially is valuable as representing the synopses of contributions by foreign writers—more particularly English—so that the practitioner who keeps up well with advances, as made through American journals, will find this volume a most serviceable supplement to his works. Very thorough indexes are added to the book.

Nurse's Dictionary of Medical Terms and Nursing Treatment. By HONNOR MORTEN, Author of "How to Become a Nurse," etc. Philadelphia. W. B. Saunders. Cloth. 12mo. Pp. 139. \$1.

This second edition of the *Nurse's Dictionary* is a great help to the person who undertakes the duties of the professional nurse, for whom it is compiled. It contains descriptions of the principal medical and nursing terms and abbreviations, instruments, drugs, diseases, accidents, treatments, physiological names, operations, foods, appliances, etc., encountered in the ward or sick room. A glance of the eye over its pages will show that the brief and simple definitions are intended only to enable the nurse to understand the terms and directions of the doctor in the sick room until she can get opportunity to consult fuller authorities. The addition of some tables of weight, measure, etc., would be useful, for oftentimes the yet general use of the terms grains, drachms, minims, etc., confuse, and a ready-reference table would be serviceable in such a pocket book.

Essentials of Nervous Diseases and Insanity—their Symptoms and Treatment, By JOHN C. SHAW, M. D., Clinical Professor of Diseases of the Mind and Nervous System, Long Island College Hospital, Medical School, etc. *Second Edition. Revised.* 48 Original Illustrations, mostly selected from the Author's Private Practice. Philadelphia: W. B. Saunders. 1894. Cloth. 12mo. Pp. 194. Price, \$1.

This Manual for students and practitioners constitutes No. 21 of "Saunders' Question Compends," so important as a syllabus for the lecturer, and valuable to the student or practitioner who wishes to brush himself up in review or for examination. As very little that is new has been established since the issue of the first edition in 1891, the present is practically a reprint of the first edition with the single exception of the correction of such errors as the compiler noticed that he had overlooked in reviewing that edition. For the purpose for which it was gotten up, this is a very creditable and useful book.

Clinical Lecture on Pediatrics. By A. JACOBI, M. D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, New York, etc. (*Stenographic Reports*) New York: Bailey & Fairchild. 1893. Cloth. 8vo. Pp. 195.

This volume contains stenographic reports exclusively of the clinical lectures delivered by this most eminent of liv-

ing authorities on children's diseases in the Vanderbilt Clinic during the session of 1892-'3, and published in the *Archives of Pediatrics*, Vol. X, from which the lectures are reprinted. There is scarcely a lecture in the book that does not contain valuable information for practitioners, and the off-hand manner in which that instruction is imparted impresses itself much more deeply on memory than it would do if given in the form of studied sentences. As to the publishers' part, it is unfortunate that the headings of lectures are not given more distinctively, and that a table of contents had not been introduced. The index also can be bettered; but typographical errors are remarkably few.

Where to Send Patients for Water Cures and Climatic Treatment. By DR. THOMAS LINN, Physician to the Bathing Establishments at Aix-les-Bains and Marlioz, etc. London: Henry Kimp-ton. 1894. Paper. 48 pages.

This little pamphlet considers why we should send patients abroad when we have at home so many useful health resorts. Chapter II describes the physical and chemical properties of European mineral waters, sand- and mud-baths. Next is a chapter on climatic resorts, exercise treatment, etc. And then comes the valuable part of the pamphlet—an alphabetical list of maladies with names of the best places to send patients to in Europe. This is a very useful summary.

Editorial.

Medical Society of Virginia.

The Committee of Arrangements for the Twenty-fifth Annual Session of the Medical Society of Virginia, to convene in Richmond, Va., October 23rd, 1894, under the chairmanship of Dr. J. S. Wellford, has begun actively to prepare for a pleasant and profitable session. In our August number, we hope to be able to announce some of the details. Under the Presidency of Dr. William P. McGuire, of Winchester, Va., good influences have been brought to bear upon the profession of the State so as to persuade many to work for promotion of the laudable purposes of this organization. We trust this reminder of the approaching session will be sufficient to awaken the doctors of the State to the importance of the meeting.

American Medical Publishers' Association.

The Second Annual Meeting of this Association, which has proved itself of such great business value to those journals already represented in it, will be held at *Hot Springs, Va.*, Monday and Tuesday, August 13th, 1894. The change of appointment from White Sulphur Springs, W. Va., has been due to financial failure and closing up of the latter Springs for this season. The Secretary, Mr. Chas. Wood Fassett, Business Manager of the *Medical Herald*, St. Joseph, Mo., as Secretary of the Association, has well arranged the plans, and in a few days will issue notifications to the members of the time and place, and the agreements with reference to rates, etc. Hot Springs, in Bath Co., Va., has grown into well-deserved national renown as a health resort, as well as a most popular place for summer pleasure and recreation seekers. It is reached by the branch of the Chesapeake and Ohio Railway from Covington, Va. Indeed, under the liberal provisions of this most excellent C. and O. R. R. Co., Hot Springs and all other of the fine health and summer resorts along its picturesque line from Lexington, Ky., or Cincinnati, to Old Point Comfort on the Chesapeake shore, have rapidly grown into prominence and popularity. We trust that, besides pleasure for the wearied representatives of the medical press, there will be a large attendance in order that important business may be transacted for the greater good of the medical journals of America. Applications for membership may be made through the Secretary, Mr. Chas. Wood Fassett, of St. Joseph, Mo., the Treasurer, Mr. J. Macdold, Jr., 14 Platt St., New York, N. Y., or the President, Dr. Landon B. Edwards, Richmond, Va., or the distinguished Vice-President, Dr. J. C. Culbertson, Editor and Proprietor of the *Lancet-Clinic*, of Cincinnati, Ohio. The Association has grown during the year, and as soon as the objects and results of this first year are known or realized, the special advantages of membership will be manifest.

The Professor-Elect of Materia Medica and Therapeutics in Medical College of Virginia

Is Dr. Charles A. Blanton, Richmond, Va. He is thus promoted from Demonstrator of Anatomy and Curator of the Museum to an important Chair in the Faculty, which his friends have a right to regard as a deserved compliment. He has our best wishes in his new field of instruction.

American Medical Association.

The 45th Annual Session, held in San Francisco, Cal., although not attended so fully as other sessions held in the Central and Eastern States of the Union, was a most interesting one from a scientific point of view. The papers were generally good, and the discussions able. The discussions about the Code of Ethics brought on a wrangle—there being both a report of the majority of the Committee and one of the minority, and it is hard to say what is to be the finality. It is perhaps the first meeting since the organization of the Association at which the “father of the Association”—the venerable Dr. N. S. Davis—was not an attendant, and a careful watcher over all the proceedings. Dr. Donal McLean, of Detroit, is President-elect; Dr. Wm. B. Atkinson, of Philadelphia, is continued as Secretary, and Dr. George R. Rohé, of Baltimore, Md., is Assistant Secretary. Dr. Dunglison having declined to serve longer as Treasurer, Dr. Henry P. Newman, of Chicago, Ill., was chosen as his successor. Baltimore is the place selected for holding the next Annual Session, in June, 1895. Dr. Julian T. Chisolm is Chairman of the local Committee of Arrangements.

The Transactions of the Pan-American Medical Congress.

The proceedings of the First Pan-American Medical Congress were compiled by the Secretary-General, Dr. Charles A. L. Reed, and transmitted to the Department of State in November, 1893. By recent joint resolution of the Senate and House of Representatives, the manuscript was transmitted to Congress, and a concurrent resolution has been adopted, directing a Public Printer to print the same. The manuscript is now in the office of the Public Printer, and will be put to press at once, under the supervision of the Editorial Committee, of which Prof. John Guiteras, of Philadelphia, is the Chairman.

The Journal of Nervous and Mental Diseases (New York) for July, 1894,

Will contain, according to announcement, the address of Dr. S. Weir Mitchell, of Philadelphia, to the American Medico-Psychological Association, with appended letters from prominent neurologists, which the editor, Dr. Chas. Henry Brown, thinks it important for all physicians to read.

The Railway Surgeon

Is the title of the bi-weekly journal begun June 5, 1894, under direction of the National Association of Railway Surgeons. It is a 24-page double-column quarto, under editorial charge of Dr. R. Harvey Reed, Columbus, Ohio, but published in Chicago, Ill. Price, \$5 a year; \$3 for six months. This first number, besides the page or more of "Announcement," gives a good picture of the recently-elected President, Dr. Samuel S. Thorn, of Toledo, Ohio; but does not give any report of the proceedings of the Association, held May 8-10. This report, however, begins in the June 19th issue, and is excellent. May the "*Railway Surgeon*" grow vigorously to journalistic maturity, and usefully fill the unique position in journalism for which it was established.

Professor of Anatomy and Surgery, University of Virginia.

Dr. W. G. Christian, of Charlottesville, Va., who has been filling the position of Professor of Anatomy since the death of Dr. Towles last Fall, has been elected Professor. It will be noticed in the title of the new chair that materia medica, etc., has been taken away from this Professorship, and Surgery substituted—a change which should long ago have been made. Dr. Christian has a right to be proud of his election, when it is remembered that the friends of other distinguished applicants were advocating their claims. He has acceptably filled Dr. Towles' place during the past session, and has experience as a teacher of anatomy in the Summer Faculty, as well as Demonstrator of Anatomy in the regular sessions.

Dr. Ben. H. Brodnax, of Brodnax, La.,

Has our congratulations in having been elected an Honorary Member of the Morehouse Parish (La.) Medical Society, because of "honorable standing, eminent ability, and unblemished character." He is also a full member of the Louisiana State Medical Society.

Dr. J. F. Winn,

Clinical Lecturer and Demonstrator of Obstetrics, University College of Medicine, Richmond, Va., and Editor of "*Practice*," has moved his offices, etc., to the offices lately occupied by Dr. John Dunn, corner Franklin and Third streets (No. 218 east Franklin street), Richmond, Va.

Dr. John Dunn,

Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va., on returning from his bridal trip, has located his residence and offices at the corner of Main and Third streets (218 east Main street), Richmond, Va. He has the congratulations and good wishes of hosts of friends.

The West Virginia State Medical Society

Will hold its Annual Session at Berkley Springs, W. Va., July 10th, 11th and 12th, 1894. Special rates have been made with the railroads, and the hotel will charge \$2.00 per capita a day. This session will be made the more attractive and profitable by reason of the holding of the meeting of the *West Virginia State Board of Health*. A convention of the *West Virginia State Board of Pharmacy* will be held at the same place and time.

Obituary Record.

Dr. William Middleton Michel

Died at his home in Charleston, S. C., June 4, 1894. He was born in that city January 22nd, 1822. Several years of his tuition life were spent in Paris, where he attended the *Ecole de Medicine* 1842-6. He then returned home, and was graduated doctor of medicine from the Medical College of the State of South Carolina, in Charleston, during the Spring of 1847. In 1848, he founded a private institute for teaching anatomy, physiology and midwifery, which he conducted with marked success until 1861. On the breaking out of the Confederate War, he became a surgeon in the Confederate Service, and was assigned to duty in Richmond, Va., in charge of the hospitals to which sick and wounded South Carolina soldiers were assigned. He was one of the editors of the *Confederate States Medical and Surgical Journal*, 1863 and 1864, published in Richmond, Va., and also of the *Charleston Medical Journal*. Few of the eminent doctors of the South ever gained greater eminence than Dr. Michel. His contributions to medical literature

were numerous and valued ; and while not always the first to adopt new ideas—his conservatism leading him to first prove all things, and then to hold fast to that which is good—his writings were sought after as by one who wrote with authority. He lived a useful life, and has left a fame that will long live in the records of the true physicians of the country.

Dr. Wm. T. Briggs,

Ex-President of the American Medical Association, died at his home in Nashville, Tenn., June 14th, 1894. He was also President of the American Surgical Association in 1885. He was also one of the delegates elected by the American Medical Association to the recent International Medical Congress in Rome. He was long one of the editors of the *Nashville Medical and Surgical Journal*, a Professor of Surgery in the University of Nashville, and the contributor of any number of valuable clinical reports and original articles to medical journals, etc. He was popular as a man, eminent as a surgeon, and progressive and influential enough to be in the lead of most of the important or useful medical advances or reforms of his section. While the date of his birth is not stated in the notice before us, he was in his sixty-seventh year of age when he died. He was a surgeon in the Confederate States Army.

Dr. Wm. G. Austin,

Born during 1814 in Loudoun county, Va., died at his home in New Orleans, La., June 12th, 1894, where he entered upon the practice of medicine long before the war. In fact, he served for years as Superintendent of the Liberty Hospital of New Orleans before the War, and then served in the Medical Department of the Confederate States. On returning to New Orleans after the War, he became conspicuous in his able contentions with the epidemics of yellow fever in thir city during the scourge of 1867 and 1868.

THE TILDEN CO.:

Gentlemen,—Your Maltopepsine has controlled several obstinate cases of vomiting in pregnancy where all other agents used by me failed. I naturally look upon it as a remedy of great value, and therefore use it.—C. GRAHAM, M. D., Collierstown, Va.

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Original Communications.

ART. I.—Syphilis of Internal Organs.

By GEO. BAYLES, M. D., of Orange, N. J.

VICE-PRESIDENT OF THE ESSEX DISTRICT MEDICAL SOCIETY, ETC.

A dictum, derived from Sir Astley Cooper, to the effect that some parts of the body are incapable of being acted upon by venereal poison—such as the brain tissues, the heart, and the abdominal viscera—so impressed the medical mind of his time, and a decade or two later, that the error had a lodgment far longer than is usual. It was a prevalent opinion in my student days—just about the close of the fifties; though the accuracy of the opinion, even from so high an authority, was beginning to be questioned, and by some boldly denied.

That venerable authority was so emphatic upon this point that he reinforced his general declaration to that effect by writing as follows: "This poison does not appear to be capable of exercising its destructive influence on the vital organs, or on those parts most essential to the welfare and continuance of life."

How utterly at variance with the facts is such a statement, as demonstrated by more modern observation, all will appreciate, especially those who have been clinically educated within the past twenty years.

For nearly two decades it has been possible for so direct a contradiction to be made by Dr. Samuel Wilks, of Guy's Hospital, who said: "Syphilis in its ultimate form is capable of affecting every organ of the body; the internal may become equally as obnoxious to the effects of the virus as the external. Many obscure and intractable organic disorders," he says, "are cases of visceral syphilis; and it cannot be too forcibly impressed upon the young practitioner, that syphilis may affect not only the cranium, but the brain within it, or the nerves; not only the muscles of the limbs and tongue, but the heart; not only the pharynx, but the œsophagus; not only the larynx, but the trachea, bronchi, and lungs; also the liver, spleen, and other viscera." *Guy's Hospital Reports*, Vol. IX, 1863.)

There has been no end of testimony, since Wilks' unqualified assurances, to establish the truth that no organ escapes the influence of venereal poison, which we now recognize as the cause of gummy tumors, exostoses, deep-seated, persistent pains, apoplexy, epilepsy, some forms of destructive disease of the eyes, and ears, and various paralyses.

Not long after Dr. Wilks, Von Swieten taught the same under the guidance of an extensive clinical experience.

"Venereal disease, if not expending itself directly upon the organs of special sense, or of organic life, or upon the blood and nerve-organism, will, nevertheless, induce blindness, deafness, rheumatism, epilepsy, and maniacal disorders." This much was clinically set forth even as long ago as the professional activity of Benjamin Bell.

All who have ministered to soldiers and sailors in the medical departments of army and navy, will have found, by their own observation, that a history of syphilis is very often the starting-point of a fatal train of physical disorders. The impairment of the health takes its origin from the date of the infecting syphilitic sore.

The almost immediate implication of the lymphatic glands leads to the impoverishment as well as the impairment of the blood as an early result, and then to the degeneration or wasting of tissues, which attends the general cachexia, and which eventually, in most instances, terminates in death, with varied and complicating lesions, especially implicating the internal viscera. Aitken has called attention to these facts, with all their clinical data, in some of his writings.

At the present time, we have a great array of pathological facts that concern the effect of syphilis upon the brain structure. Lesions of the brain, from morbid venereal causes, have been recorded in the fullest abundance by Bonnet, Ricord, Callier, Lallemand, Virchow, and Sternberg. Ricord described them as "syphilitic tubercle of the brain."

Virchow has given us the most graphic demonstrations of syphilitic lesions of the great vessels in those who eventually died from important brain lesions.

The other authoritative observers, previously mentioned, have described gummatous tumors of the brain. Dr. Sternberg, Physician for the Insane at Schleswig, asserted that a great proportion of the syphilitic affections of the brain are subsequent to lesions of the arteries. In this he was entirely in accord with Professor Virchow, although he was more insistent than Virchow in the claim that the terminal brain affections were invariably the direct result of the syphilitic lesions of the greater vessels. Sternberg also observed syphilitic localization in the organs of circulation generally.

Who does not know now, in our time, that in the cases where cerebral symptoms have long co-existed with a syphilitic taint of the system, not under efficient control of appropriate medication, a quantity of tough, yellow, fibrous tissue agglutinated the approximated surfaces of the brain, and this with adjacent membranes, and this, still further, was made adherent to the bone?

The cortical substance of the brain at the spot receiving

this adventitious and malign deposit is often destroyed, or partly destroyed, and the invading material occupies its place.

The question, I think, has not even, as yet, been definitely answered, as to what structure is primarily affected. We have the opinion of many that the disease commences first in the bone. Perhaps this opinion was based upon the simple fact that for a considerable period the osseous tissue had been recognized as liable to be affected whenever the syphilitic dyscrasia was present, and before other varieties of structural lesion had been as fully demonstrated. Since we know now that other structures may be similarly attacked, we are prepared to look for its commencement in other parts, and even in the brain structure itself.

It is probably, at this time, our commonest experience to observe that the morbid deposit involves both sides of the *dura mater*, and includes in it the bone, on one side, and the brain-mass on the other. The weight of evidence is in favor of its occurring in the *dura mater* first, as it arises in the periosteum on the exterior of the cranium. Local lesions, as caries or necrosis of the facial bones, or of the cranium, such as gummata, periostitis, or exostosis, at once point to cerebral syphilitic lesions, which are sometimes expressed by persistent epilepsy.

Generally the nervous symptoms are alteration of intelligence, of sensibility, of motion, and occasionally neuralgia; and, according to Zambaro, chorea will be developed under the influence of syphilis.

Various forms of nerve phenomena of an atonic nature are by far the most frequent result of the syphilitic poison upon the nerve tissues. This is shown especially in the motor and sensory paralyses. When the paralysis happens without apparent cause, and in cases in which syphilitic antecedents were possible, Jonathan Hutchison insisted that it would be advisable to try the effects of specific treatment, as both likely to establish a true diagnosis and relieve the disorder.

Professor Jakstch says, "hemiplegia is the most frequent

form of syphilitic paralysis, and may appear from five to ten months to eighteen years after the primary lesion, but often a much shorter time, and sometimes very insidiously." In the experience of that observer, paralysis of the muscles of the trunk was not the result in this class of atonic nerve lesions.

Our pathologists are now able to show the effect of syphilis on the heart to be chiefly in the formation of growths in or upon that organ. Virchow describes the growths as in the mass of the muscular tissue of the heart.

Ricord and Lebert call these growths "syphilitic muscular nodes in the substance of the heart." Ricord's "Atlas" presents these growths as consisting of firm, cheese-like masses, to be found in the substance of the ventricles. There would be a history of chancres and ulcerated tubercles of the skin; also, in such cases, Lebert has affirmed that gummata would be seen at a comparatively early stage of development, and would be found in the wall of the right ventricle. There would be tubercles of the skin, subcutaneous tissue, genitalia, and the bones of the skull. Virchow rather confirms Lebert's views.

In the museum of the medical department of the army in London may be found two or three anatomical preparations which show syphilitic gummata in the substance of the heart. These specimens have been labeled, and one of them reads as follows:

"Soldier, æt. 24; under treatment for venereal ulcers of nine months' duration, in various parts of the body. He had lost his palate, and eventually sunk from exhaustion, with symptoms of phthisis. Sections of the muscular substance of the heart showed several isolated deposits in its substance and beneath its serous covering, and isolated portions of the lungs were converted into a substance of the consistence of cheese."

This subject is capable of indefinite extension by a close investigation of what many museums afford, and a careful review of a good deal of our recent medical literature. As illustrative of syphilitic arterial disease, two important cases were mentioned in an article by John S Bristowe,

M. D., LL. D., F. R. S., of London, on "Syphilitic Affections of the Nervous System," read before the Medical Society of London in January of 1893. These two cases I will take the liberty of quoting as extracts from that valuable paper:

"*The first of these was brought before the Pathological Society by Dr. Walter Edwards, May 3rd, 1892. The patient was a man, aged 36, who came under Sir Wm. MacConnor's care on account of an aneurism on the right side of the neck, which had been rapidly increasing in size. He had a few days before admission been seized with a sudden attack of faintness; and after admission the mere handling of the tumor frequently brought on similar attacks. Owing to this circumstance, the belief that his arteries were extensively diseased was entertained. No trace of pulsation could be felt in any of the arteries of either upper extremity, and there was a loud basic systolic murmur. This fact, coupled with the fact that the patient was exceedingly ill, caused the medical attendants to decide not to attempt any operative procedure. The patient had had well-marked syphilis twelve years previously. He died comatose twelve days after admission.*

The heart was large, and the pericardium adherent by easily broken down adhesions. The valves were healthy. A gumma, about two inches in diameter, projected from the groove between the right auricular appendage and the pulmonary artery. The whole of the thoracic aorta, including the arch, was enormously thickened—all the coats being involved, but the outer coat much more than either of the others. In places they were collectively more than eight times as thick as natural. The thickening extended along the innominate and right subclavian—the latter of which would admit of the passage of a bullet-probe. The right common carotid was healthy, but the right internal had springing from it near its origin a globular aneurism about two inches and a half in diameter. The left common carotid was diseased, and only admitted a bullet-probe, and the left subclavian, about an inch from the aorta, ended in an impervious fibrous cord. The cerebral and abdominal arteries were all healthy, and no other visceral syphilitic lesion was discovered."

"*The second case was exhibited before the same Society, and on the same evening, by Dr. Herbert Hawkins. It was that of a girl, aged 11, who was admitted into St. Thomas' Hospital, suffering, it was supposed, from acute nephritis.*

After experiencing one or two short attacks of illness, probably due to infarction of the lungs, she was observed, on February 7th, to have swollen and cold legs, and a few days after swelling of the face. She was admitted on the 20th, being at the time extremely ill. She had general dropsy, was passing very little urine, which contained a small quantity of albumen, but no casts, and there was evidence of pulmonary congestion. Subsequently she passed a little blood on one occasion with her urine, which continued to be for a time very scanty, but during the last four days of her life it became fairly abundant, and ceased to be albuminous; the lower part of her lungs became solid; her pulse of high tension, she presented the Cheyne-Stokes breathing, and died (apparently from uræmic poisoning) on March 22d.

At the post-mortem examination, gross disease was found in nearly all the arteries of the body. The first half of the aorta was studded with gray, translucent spots and patches, from the size of a split pea to that of half a crown; and for a length of three inches, immediately above the bifurcation, the thickening was so great that the channel barely admitted a bullet-probe. Similar patches were observed in the common carotids and subclavians, in the left internal carotid as it entered the cranial cavity, and in the right internal carotid, involving the origin of the middle cerebral. There was similar disease throughout the pulmonary arterial system. The renal arteries towards their entrance into the kidneys were completely obstructed by clots, which were old and white at the periphery, but red and comparatively recent centrally. There was an old infarct in the kidney, but neither organ showed any evidence of nephritis. The liver presented a patch of peritonitic thickening, and was rather large. The spleen was large and firm, and its capsule thick and covered by old adhesions. The lower and back parts of both lungs were consolidated, and contained large infarcts. There was hæmorrhage into each lateral lobe of the cerebellum—the clot in each case being the size of a hazel-nut. There can be no doubt, however, that the lesions in this case were the result of congenital syphilis."

I find in the *London Lancet*, Jan. 1st, 1887, the following:

"*Syphiloma of the Heart*.—At a late meeting of the Pathological Society of London, Dr. W. Pasteur showed a specimen of syphiloma of the heart from a woman, aged thirty, who was taken to Middlesex Hospital *in articulo mortis*. She

was probably a prostitute. None of the ordinary signs of syphilis were visible, except in the heart. The liver had a peculiar marbled appearance. There was some recent lymph on the surface of the left ventricle, which was hypertrophied and dilated. Greyish, opaque patches of varying size and distribution were seen in the wall of the ventricle and septum. At least one-half of the ventricle was diseased. The right ventricle was less diseased. The patches were ill-defined and translucent at the edges. There were milky looking patches on the endocardium. Microscopical sections showed infiltration of corpuscular growth, which was very vascular at the margin; the nuclei were spherical and distended. In some of the vessels of the heart doubtful evidences of peri-arteritis were to be seen, and possibly also endocarditis. The liver showed numerous accumulations of small, round cells, like that met with in some forms of interstitial hepatitis of congenital syphilis."

There is an abundance of descriptive writing concerning syphilitic lesions in the lungs. The closest alliance in point of symptoms exists between this condition and pulmonary tuberculosis. Without a trace of tubercle present in the lung, there will be distressing dyspnœa and periosteal tenderness, and the bodily temperature is not greatly increased.

One typical case I have at my command, which occurred in 1884:

There were two months of initial and preliminary wasting, with a fatigue that rendered the patient unable to work. He was thirty-nine years old, and he had coughed only a few days. He had not suffered much from night-sweats nor hæmoptysis. After a few days, he expectorated mucopurulent fluid, slightly blood-stained. At the left apex, there were all the signs of a large and advanced cavity. Cavernous breathing, gurgling and cracked-pot sound on percussion. Over the right lung, the breathing was somewhat blowing in character, with subcrepitant râles. The diagnosis was tuberculosis of both lungs, but most advanced in the left. The left tibia was enlarged and irregular, and on the same were gummy ulcers. The discovery of these signs led to the administration of iodide of potassium in a daily dose of sixty grains. After two months' treatment, the signs of lung mischief had almost disappeared, and the nodes had considerably diminished in size. Eleven months later, the patient was again critically examined. His gen-

eral health was very satisfactory, and the chest lesions appeared to be completely cured. The patient, however, had only continued the iodide for a month after this later examination, and ulceration re-appeared in the left leg.

Here was a case in which there were no physical chest signs, by which diagnosis between tubercle and syphilis could be made. A suspicion of the true nature of the affection, and an experimental essay in treatment made it finally evident to what this train of symptoms was due.

Virchow has made us acquainted with peri-hepatic lesions and simple gummy interstitial hepatitis.

Dittrich and Gubler were the first to give accurate descriptions of syphilitic deposits in the liver. The hepatic substance atrophied, and the deposit contracting is eventually absorbed, causing a cicatrix-like mark.

The gummy interstitial lesions and the peri-hepatic lesions never occur singly, but are invariably associated. The liver lesions are usually among the later symptoms of syphilis, and are well described by eminent German pathologists and an English pathologist or two. During the term of my internship at the New York Hospital, Dr. Cornelius Agnew, the curator and pathologist at that time, found syphilis deposits in the spleen, consisting of sulphur yellow nodules of the size of peas, plentifully scattered, deeply seated, and fatty in their centre. Gummata have likewise been found in the pancreas.

Specific nephritis is illustrated in the following review, derived from the London Clinical Society: At a meeting of this body, held about the time of the Tenth International Medical Congress (Berlin), several cases of hereditary syphilis were reported, in which, among other affected organs, the kidneys had been involved, being the seat of parenchymatous nephritis. Referring to such patients, it was stated that when death occurred as a consequence of syphilis, the fatal result was directly due to the nephritis.

One physician was convinced that patients who had been suffering for a long time from syphilis acquired a true predisposition for parenchymatous nephritis, and were liable

to death from this condition. The sum of the debate may be stated as follows: Nephritic lesions are among the complications of all stages of syphilis, even of acquired disease. Such nephritic complications are always grave; nevertheless, they are sometimes curable, not only when they occur in adults, as a result of acquired syphilis, but also in children affected with the hereditary disease.

Together with other specific lesions, they have this characteristic in common. Their gravity is in proportion to the age of the patient's syphilis, and the period of time which has elapsed before specific treatment was begun. In children affected with hereditary syphilis, specific nephritis should always be taken into consideration when the patients are subjected to accidents for which nephritis may be held accountable. When a physician meets nephritis in an adult, he would do well to think of the possible specific origin of the renal difficulty in view of the great number of cases of unsuspected syphilis.

Dr. L. P. Yandell, of Louisville, Kentucky, reported in the *Maryland Medical Journal* of May, 1878, a case of syphilitic albuminuria, which is of interest:

The patient was an intelligent German, sixty years of age, and was an inmate of the Louisville City Hospital. He was a subject of general dropsy, and on the card over his bed was written "albuminuria." His pale, waxy-looking skin, puffy eyelids, constant indigestion, slight bronchitis, disturbed vision, hemicrania, pain in the back, muscular debility, and frequent nocturnal micturition, all confirmed the diagnosis, and examination of the urine showed it to be excessively albuminous, and abundant in tube-casts and renal debris.

Deriving no comfort from treatment, and indeed growing gradually worse all the time, and having no hope of recovery, he begged to be allowed to desist from treatment, and the request was granted at the end of two weeks.

The patient's nose had the "saddle-shaped" appearance so often associated with tertiary syphilis, where the nasal bones have come away.

This, with other indications of syphilis, decided the doctor to give the patient the *therapeutic test*. He prescribed a scruple of the iodide of potassium, to be taken in skimmed

milk or water every three hours, when awake—the doses to be increased ten grains each and every day, until iodism gastric disturbance, or relief of symptoms should occur. He took, on several occasions, an ounce of the medicine daily, and never had any discomfort from it. He got iron and bitter tonics at the same time. His improvement was marked at the end of a few days. The throat rapidly healed, his strength, appetite and color returned, and the urine ceased to evince any sign of renal disease. In two months he was well.

The natural commentary upon this survey of organic syphilis is that this essential complication in organic disorders is not uniformly detected by medical practitioners. It will never be known how many have died, or may die, where the cause of death is certified as coming from morbus Brightii, diseases of the heart, apoplexy, phthisis pulmonalis, marasmus, etc., but where, in the shade of obscurity, stood within striking and vanquishing distance, the malign monster, syphilis.

The brilliant results that follow the proper treatment make it of the first importance to be correct in the diagnosis of our cases where syphilis is a possible element.

The underlying influence of syphilis not only negatives all other diagnoses—despite the misleading prevalent symptoms—but it makes a certain course of specific treatment imperative.

ART II—Local Anæsthesia—Rules for Hypodermic Use of Cocaine.*

By WM. P. CARR, M. D., of Washington, D. C.

I consider the physician's highest function to be the alleviation of human suffering, and consider the relief of pain to be of equal or greater importance than even the saving of life.

The judicious use of local anæsthetics contributes not a little to this end. Nearly all the small operations that are

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, May 14th, 1894.

usually done without anæsthesia, can be performed painlessly and much more thoroughly, by spending a little time in producing insensibility of the part, and patients highly appreciate the attention, particularly if a similar operation has been done previously without it.

I shall first consider the subject in *its relation to minor surgical operations*. There are three local anæsthetics that might be mentioned; (1) carbolic acid, (2) cold, (3) cocaine.

Absolute superficial loss of sensation may be produced in raw surfaces or ulcers by bathing them in first weak and then strong solutions of *carbolic acid*. Water will only dissolve five per cent. of the acid, but a mixture of one part glycerine, and three parts water, will dissolve it in any proportion. Make a two or three per cent. solution of the acid and drop some of it on the ulcer. Add a little more acid, and again drop upon the ulcer. Continue this process until you have reached a twenty-five per cent. solution, and you will have produced complete anæsthesia.

The method is objectionable, however, as in an hour or so a reaction sets in, with severe burning pain in the part, that will last half hour or an hour. If a very small drop of a twenty per cent. solution of carbolic acid be placed upon the skin, a hypodermic injection may be given at that spot after a few minutes, without the prick of the needle being felt.

The use of *cold* is so familiar that I need say nothing of it, especially as its use has been almost entirely superseded by cocaine. But in very nervous or sensitive persons, it may be well to apply salt and ice, the ether spray, or a drop of carbolic acid before giving a hypodermic injection of cocaine, particularly if the part is very sensitive, as in bone felon. I prefer a drop of carbolic acid for this purpose, as cold sometimes produces considerable pain at first.

I have several times heard physicians who had experienced the opening of a felon "in propria persona" remark that the hypodermic needle hurt as much as the incision of the felon, and that sensation was not affected by *cocaine*. It is on account of many such unfavorable comments made

to me by my fellow practitioners, that I have been tempted to put on record in this paper my experience with the drug, and I would like to emphasize first, the fact that hypodermic injections can be given even in inflamed and highly sensitive tissues without the slightest pain; and secondly, the no less important fact that it is never necessary to insert the needle at an excessively tender spot, such as the ball of the finger, or toe, or the inflamed tissue of a bone felon.

I have injected into my own fore-arm, about the middle of the extensor surface, a grain of cocaine, and found in eight minutes loss of sensation following the cutaneous branches of the radial nerve down to the middle finger, forming a strip of anæsthetic skin eight or ten inches long, and not over an inch in width. And whenever I have tested for it, I have found a similar result in its practical use on others. This result is particularly noticeable when a band is applied to the limb above the seat of injection, so as to stop the circulation, and prevent the drug being carried off by the blood. It is a matter of some importance therefore to place the first injection on the proximal side of the field of operation, and to bear in mind the direction of the sensory nerve branches of the part.

Very different effects are obtained from injections into the derm, and from deep subcutaneous injections. In deep injections the area of anæsthesia is usually larger, but does not become complete for from five to twelve minutes, and may follow the nerves toward their termination and not affect the sensibility of the skin at all in the immediate vicinity of the injection. In this way sensation may be unaltered at the site of operation, while there is complete anæsthesia some distance below it. If, however, the needle be inserted into the skin just deep enough to cover its eye, a small area of complete anæsthesia will be produced immediately, and will be outlined temporarily by the white appearance of the skin. When a simple incision in the skin is to be made, the latter method is preferable, as it re-

quires a very small quantity of the drug, and the loss of sensation is absolute and immediate.

But when the operation to be done will require deep dissection, the injections must be both superficial and deep.

The following table of 282 minor operations that I have done in the past five years under cocaine anæsthesia, will show the varied uses to which I have put the drug, and I may say that in every case except the first seven, the result was completely satisfactory, both to the patient and to myself.

This table includes all my cases of which I have any record in which cocaine was used as an anæsthetic.

OPERATIONS.	NUMBER.
Extracting root of tooth.....	1
Opening alveolar abscess.....	6
“ bone felons.....	12
“ abscess.....	32
“ boils.....	7
Opening and curetting carbuncles.....	11
Removing sebaceous tumors.....	18
“ wens.....	6
“ cystic tumor.....	2
Opening external piles.....	23
Internal urethrotomy.....	7
Passing sound (sensitive urethra).....	12
Cutting meatus.....	13
Cauterizing chancroids.....	37
Cauterizing phagedenic chancre (same one).....	6
Dilating and curetting uterus.....	16
Phimosis.....	8
Trachelorrhaphy.....	2
Urethral caruncle (removal).....	2
Amputation of fingers.....	6
Amputation of toes.....	10
Operations for ingrowing nail.....	14
Removal of nævus of lip.....	1
Removal of Meibomian cysts.....	7
Fissure in ano.....	3
Ligation of radial artery.....	1
Scraping callous ulcer.....	2
Excision of tubercular gland of neck.....	2
Opening bubo.....	10
Excision fibroma on extensor tendon of wrist.....	1
Reducing dislocated finger.....	2
Reducing Colles' fracture.....	2
	<hr/>
	282

My first experience was discouraging. I injected about three-fourths grain into the gum of a lady, Mrs. B., for the purpose of extracting an old root. In a few moments she

became blind and completely paralyzed, and her respirations dropped to four per minute. I exposed her neck and chest, and began flapping her with a towel dipped in ice-water. In three or four minutes she was sufficiently recovered to be out of danger, and I extracted the root, but without much diminution of the pain. This lady, however, was peculiarly susceptible to the action of many drugs. Three-drop doses of Fowler's solution three times a day produced in two days colicky pains, puffy eye-lids and sore finger-tips. A belladonna plaster applied to her back dilated her pupils, and one-sixth grain of extract of cannabis Indica in a compound ergotin pill produced complete muscular relaxation and distinct cerebral symptoms of cannabis Indica poisoning.

I have since found that its use about the mouth is usually unsatisfactory, and that disagreeable symptoms, such as faintness and nausea, are generally produced by the hypodermic injection of more than one-fourth grain into the gum or buccal mucous membrane, and that the area of anæsthesia produced is small, incomplete and transient. This is all probably due to the rapid circulation in the parts. I have found the best and most convenient way of using cocaine to be in the form of hypodermic tablets of $1\frac{1}{2}$ grains. This size is convenient, because with a syringe of water it makes a four per cent. solution, which I think is about the weakest that is thoroughly effective.

I have never paid so much attention to the strength of the solution as to the actual quantity of the drug inserted; but I think we will get better results from the same amount of cocaine by combining it with little water, so as to make a solution of four or eight per cent. The quantity that is safe to inject is subject to variations. We must take into account personal idiosyncrasy, and the rapidity of absorption as influenced by the situation of the injection and the use of a rubber band or ligature above the seat of injection.

Personal idiosyncrasy is not greater in relation to cocaine than to other drugs, particularly alcohol, as we see it illustrated every day in the unequal effects of similar quantities of alcoholic drinks upon different individuals. Neuritic

persons are invariably affected by smaller doses than those of strong nervous organization.

If the patient is hysterical or neurasthenic, or is affected unpleasantly by a small quantity of wine, or by ordinary doses of depressing drugs, the dose must be small if we wish to avoid unpleasant effects.

I have never seen dangerous symptoms except in my first case, and that woman, I think, represents the most extreme degree of susceptibility that we are likely ever to meet. She will stagger and be forced to lie down after one glass of wine. I gave her at least three-fourths grain at one injection, in the place of all others where the constitutional effects are most rapid and marked. The symptoms produced were certainly very alarming, but lasted only four or five minutes, and she recovered without any antidote. I have since given her a half grain injection in the neck, for the opening and scraping of a carbuncle, without any worse effect than slight prostration.

I think, therefore, that in the gum or mouth, one-fourth grain is a perfectly safe dose, and that it may safely be repeated in ten minutes if no disagreeable symptoms appear. In the neck, face, and scalp one-half grain may be given as a safe dose, and in the trunk and extremities one grain. In these doses no unpleasant effects will be observed unless the patient is very susceptible, and even in the extremely susceptible there will be no danger. If there is any suspicion of the existence of marked idiosyncrasy and the operation can be put off for a few days, it is a good plan to try the effect of the drug in gradually increasing doses by the mouth. A tolerance for it can in this way be rapidly established.

Whenever the anatomy of the part will permit, a rubber band or ligature should be applied above the seat of operation. This will prevent rapid absorption, and the dose may be largely increased without danger. In operations upon the extremities, this can always be done, and two grains can be given with safety, and to the average individual without unpleasant effect.

I have given in this way four and one-half grains for the synchronous amputation of three toes with no effect except some mental exhilaration and talkativeness. In small children I am unable to give any rule as to the safe dose. I have never had occasion to use it hypodermically in any patient under eight years of age. I would like to hear the opinion of members of this Society upon this point.

If the following rules are observed, I think there will be no complaint as to the results in its hypodermic use:

1. Keep the syringe in good working order, clean and aseptic. Use a small sharp needle and boiled water.

2. Use a four to eight per cent. solution.

3. Disinfect the part with a sublimate solution one to one thousand, or one to five hundred before using.

4. In making the first injection choose the least sensitive spot central to the site of operation and near the nerves leading to it. This may be an inch or even two inches distant. Inject, at first, only a third or a fourth of the quantity you expect to give.

5. If possible put a rubber ligature around the part above your injection. Make this ligature just tight enough to stop the circulation and prevent bleeding while you are operating. It need not be tight enough to cause much discomfort. This prevents constitutional symptoms and prolongs the local effects.

6. Wait until you get the effect of the first injection which may be five minutes, or even ten or twelve minutes if it was placed deeply. Then make all subsequent injections by passing the needle through the skin where it has lost sensation and running it along under the skin in the direction indicated.

7. Before beginning to operate, pass the needle all around and beneath the field of operation, to see if all parts have been thoroughly anæsthetized. If not, inject a little more at the sensitive spots.

8. If sutures are needed, place them before removing the rubber band; but do not tie them until the band is re-

moved and the bleeding checked. Sensibility soon returns after removing the ligature.

9. If a large dose has been used, and constitutional effects are feared, put the ligature back after the operation, and leave it for an hour or so. I have found that whiskey intensifies the effects, but that strychnia relieves them promptly, and I consider a hypodermic of strychnia the best antidote to cocaine poisoning. Cocaine must be used hypodermically, of course, on all parts covered by sound skin, but on mucous membranes this is, as a rule, unnecessary and inadvisable. In the mouth and nose, it is best applied by a spray or by rubbing a cocaine tablet over the part to be affected. The latter method is more effective if the tablet can be held against the part for several minutes without producing cough or gagging. Anæsthesia thus produced is incomplete, superficial, and of short duration, but sensation in the mouth is not acute, and it answers a good purpose. Its hypodermic use in the mouth gives no better results. Two or three grains placed in tablet form in the uterus and cervical canal will render dilating and cutting painless, provided we give it fifteen or twenty minutes for absorption, and do not pull the uterus down to do the operation. In operating for lacerated cervix, it is better to inject it into the cervix. Pulling down the uterus for either of these operations is usually unnecessary, and I think to be condemned. For chancroids and ulcers, it is only necessary to lay a tablet on the surface, and allow it to dissolve in the secretion; or, if the surface is large, powder one or two tablets and sprinkle over it. This is much more efficacious than a solution. The same rule holds in the urethra. For passing the sound in a very sensitive urethra, it is only necessary to inject enough of a two per cent. solution to distend the urethra; but for cutting strictures, a few drops of a saturated solution, or better still, a tablet should be carried back to the stricture. For enlarging the meatus, it is only necessary to place a tablet just within the opening and let it dissolve.

There are many uses for local anæsthesia that are not

surgical. The pain of incurable cancers may often be greatly palliated by local applications of cocaine; and carbolic acid in the form of an ointment or of suppositories. And a similar ointment will be found efficacious in superficial neuralgias and other painful affections of the skin. In all chronic affections, however, we should use it cautiously for fear of inducing the cocaine habit.

In this connection, I may mention a fact well worth knowing, and I think not generally known, that chordee may be entirely and promptly relieved by putting on a condom containing two or three drachms of a two per cent. solution of carbolic acid, and that any pain in the penile portion of the urethra or pendulous penis may be controlled in this way. I had a patient with a mixed chancre in the meatus who suffered great pain upon micturition. I recommended the condom, and he experienced the greatest relief from putting it on for fifteen or twenty minutes before urinating. He carried it, and a vial of carbolized water, in his pocket for some weeks.

I will close with some remarks upon *heat, and especially dry heat, as a pain reliever*. Two years ago, I ran a nail deeply into the ball of my thumb, and experienced no inconvenience from it for several hours. But at the end of that time; my hand began swelling and aching. The pain soon became intense, and extended to my shoulder. I was induced by a lady, who was visiting at my house, to try heat, which she applied as follows: My arm to the shoulder was placed in a cone made of newspapers, being run in through the apex, while a shovelful of hot coals was held under the open base of the cone. The heat was all I could stand, but the sensation was pleasant, and the pain began at once to subside. In fifteen or twenty minutes, the pain was gone, and the wound gave me no further trouble.

I have since relieved a severe and persistent pain of a similar character in a patient's foot, using a pasteboard box and a bunsen burner to supply the heat; and have used dry heat applied in a similar way and with gratifying result

in a case of facial neuralgia that had resisted large doses of morphia.

I believe that painful inflammation of the extremities may be relieved and even cured by an hour or two of baking at a temperature as high as can be borne, and that the heat acts as an antiseptic as well as an analgesic. It is easy to enclose the limb in a large pasteboard box, and furnish heat from an alcohol lamp or bunsen burner, placed under a hole in the bottom of the box.

ART. III.—**Neurotic Phenomena in Throat Diseases, with Illustrative Cases.***

By W. PEYRE PORCHER, M. D., of Charleston, S. C.

It is the purpose of the writer simply to record a few cases selected at random, and to ask attention to some phenomena familiar to specialists, but which a great many physicians either attribute to incipient or advanced tubercular lesion, or simply ignore by relegating them to the list of "*les malades imaginaires*" I allude to the *neurotic phenomena in throat diseases*.

A very large proportion of the cases which come to us for treatment consist of what may be called neurasthenic throats, or cases in which either no actual inflammation exists, or in which a previous inflammation has already subsided, and left a throat given over to neurotic reflexes, such as irritative coughs, paralysis of one or both vocal bands, spastic hysterical or functional aphonia, imaginary foreign bodies in the throat, etc.

When these cases come to the specialist, they are at once classified and treated according to the neurotic symptoms which they present. Not so with very many of the general profession. Neurotic reflexes, irritative coughs, etc., in the larynx and pharynx, are often at once attributed to some disease of the lungs or bronchi; and even when there is

* Read before the American Laryngological Association at its Sixteenth Annual Congress.

no physical sign of lung involvement, a diagnosis of latent tubercular disease is made with or without hereditary taint.

As the nerve supply of the larynx and pharynx is so intimately connected with every organ of the body, it would be of the greatest value if we could separate those neuroses which are due solely to irritation in the upper respiratory tract from all those reflexes which are produced by inflammation or irritation of the lower respiratory tract, or from other organs at a distance.

Fortunately reflex irritation from other organs can almost always be detected by the peculiar sound of the coughs or other symptoms which they present; as, for instance, the short, dry, jerky cough, with accompanying stitch of pleurisy, or the deep, basilar cough of pneumonia, or the hollow resonant cough of advanced phthisis. There can be no question that the number of coughs or the different reflex irritations which are produced by inflammation of those organs at a distance from the upper respiratory tract, form but a very small proportion of those which have their origin in and are solely produced by local irritation in the larynx, pharynx, and nose.

These irritations occur generally either as itching, stitching, or gagging, or simply hoarseness in the throat, and the desire to cough is irresistible and uncontrollable. They are invariably present in one form or another, in almost every case of phthisis, and it is impossible to say just what part the bacillus plays in their production; but a cough resulting from one or the other of these sensations, unless checked in the incipency, generally forms the early history of most phthisical cases.

I hope you will not infer from this that I am attempting to underrate the germ theory of this disease, but it is evident that if some of the following cases, which had many of the symptoms of incipient phthisis—and surely offered as good a nidus for germs as any other cases—had been treated by the administration of germicides, the results obtained, which were exceedingly rapid and satisfactory, would certainly have been very different.

Without further remarks, I will report the outlines of a few cases which, to the writer at least, in each instance, proved to be separate and instructive lessons.

CASE I—*A Barking Girl (Chorea Laryngitis)*.—Miss G., aged about twenty years, was suddenly taken with a spasmodic cough, which increased in violence as time progressed. No sputa was brought up, but the paroxysms were so violent that a physician was called in and various cough mixtures, etc., were administered for several weeks, with no perceptible influence on the cough. Finally, in desperation, the paroxysms being so severe, violent and exhaustive, she was brought to me. The paroxysms recurred every few seconds, shaking her whole system while they lasted. They did not end in any whoop, nor was there any suspicion of whooping-cough present. I examined her lungs critically, but found not the least evidence of disease in the chest, throat, or nose. I recognized her as a "barking girl," and pronounced it to be a case of *chorea laryngitis*. I told her she would be compelled to stop coughing, and that immediately. For the sake of the moral effect, however, I cauterized some enlarged follicles on the back of the tongue, and applied a solution of nitrate of silver to the posterior pharynx. I also administered quite a sharp cathartic, because I believe that a free evacuation of the whole alimentary tract exerts an extremely beneficial influence upon the neuroses, as well as upon inflammation of the upper respiratory organs. I need not add that the result entirely satisfied my expectations. The girl reported two days afterwards that she had not coughed a single time after leaving my office.

There was not the least sign of hypnotism about the treatment of this case. The correct diagnosis was first made—namely, that the cough was entirely due to a neurotic reflex irritation in the larynx and pharynx.

The cautery was applied partly for the moral effect, as I said above, but also to make the cough a very disagreeable effort. She was then ordered to resist the impulse, which she did, and achieved the most satisfactory results.

CASE II—*Irritative Cough*.—A young lady about 16 years of age has not slept through a single night in three weeks, on account of persistent and annoying cough, which she had had for several months. Many things had been given

by her family physician, with the hope of stopping it—among them a spray of cocaine to the posterior pharynx—but all to no avail. On examination I failed to detect any throat inflammation sufficient to account for the cough, or any symptoms of disease in the chest whatsoever. I therefore unhesitatingly pronounced it to be a *hysterical neurosis*, and ordered her a mercurial cathartic—Sulph. codeia grs. $\frac{3}{4}$ ter in die and applied a solution of nitrate of silver to the posterior pharynx every other day. Some hypertrophies of the lingual tonsil were also reduced with the galvanic electrode. The result was most gratifying. She promptly responded to treatment, her cough rapidly ameliorated, until it finally disappeared entirely, and she has had no return in five or six months.

CASE III—*Irritative Cough*.—S. B., white, aged about 35; occupation, book-keeper; came to me in June, 1893. He stated that he had had a severe cough and night sweats for six months. His face was pale and haggard, and he had every appearance of a man who had given himself up to the ravages of consumption. Marked dullness was found all over the left lung, with compensatory respiration on the left side.

He was told that his chances of recovery rested entirely upon the possibility of controlling the cough, and that the inflammation then present in the lungs could not and would not be allayed as long as the cough lasted.

He was ordered a mixture of sulph. of codeia dilute acid hydrocyanic, spts. chloroform and glycerine.

Local applications of nitrate of silver were made every other day to his posterior pharynx, and he was told to sleep in a bed by himself, as the weather was quite warm.

At the end of one month his cough had entirely stopped, as well as the night sweats. Examination, however, showed not the least change in the dullness over the lung, and the patient was sent to the mountains of North Carolina for rest and change. After a month's absence, he returned home. On physical examination, the dullness was found to have completely disappeared, and there was no return of the cough or night sweats. The patient had also fattened greatly, and had postponed his consumption for a future date. He is now in excellent health in every respect.

CASE IV—*Bilateral Adductor Paralysis*.—This case was one of spastic or *hysterical aphonia*, but, unlike most cases, it began first with an acute follicular tonsilitis. She was a school teacher, aged about 25, and came to me about the

20th of March. Her sore throat began February 12th, and she became almost aphonic, which lasted until I began to treat her. At that time, and for some time after, she could not possibly pronounce the vowel e.

On attempting to phonate, the vocal cords were plainly seen in the mirror to approximate to about one-eighth of an inch of each other, but she could not bring them actually in contact. Her pronunciation was exactly similar to what is heard in the hobbledehoy age—the voice breaking at every attempt to talk. I thought it possible that there might be some remnant of the tonsillar inflammation left; so I gave her a hot pine oil inhalation and a gargle of chloride ferri and comp. tinct. of cinchona. I also destroyed some enlarged follicles on the posterior pharynx with the galvanic electrode. All this, however, proved of no avail, so I at once began the intra laryngeal application of electricity, and she can now speak distinctly and controls her voice entirely.

CASE V—*Bilateral Adductor Paralysis*—M. P., colored washerwoman, aged about 40, attempted to call me from a little distance to request me to examine her throat. Her voice was so hoarse, however, as to be almost inaudible. I immediately supposed that I had a case of œdema glottidis or ulcerated laryngitis to treat, and proceeded to introduce the laryngoscopic mirror. On requesting her to phonate, with the laryngeal mirror in her mouth, she did so without hesitation, her fright enabling her to overcome the adductor paralysis and approximate the vocal bands. I found no sign of œdema, ulceration or acute laryngitis, and hence it was immediately shown to be nothing more than a case of hysterical aphonia. I ordered a simple gargle to satisfy her that something was being done, and told her that she would immediately recover her voice.

She continued to speak clearly while in my office. About a half hour after leaving it, however, she returned, saying that she had again completely lost control of it. I simply assured her that it would again return, as it had done before. This proved to be the case, and she has never required any further attention.

CASE VI—*Abductor Paralysis of the Right Vocal Cord from Disease of Recurrent Laryngeal Nerves due to Central Lesion*. The patient was a negro man, aged about 50. As is usual with colored patients, the history is very obscure. He states, however, that about two years ago he fell from a scaffolding and was unconscious for some time.

He recovered perfectly, however, and has not been sick since except some fever and giddiness during last summer. His present state began with a violent toothache five years ago in the lower jaw. The tooth was extracted, but it left a severe pain in the right ear, and his voice became hoarse. He has had frequent attacks of gasping for breath, and food and liquids occasionally regurgitate through his nose.

There is no direct history of syphilis, but he acknowledges that he has had what he calls a hair-cut on his penis, but no bubo or eczema.

The mirror shows the right vocal cord bound down, and the chink of the glottis running in an oblique direction from left to right. On phonation, the left cord moves over to meet the right. There is marked drooping and loss of motion in the soft palate. The most careful examination of the chest shows no sound of aneurismal bruit. Nor is there any visible tumor or pressure on the recurrent laryngeal nerve. There is no pain nor marked anæsthesia—the only sign of anæsthesia being the frequent tendency of particles of food to enter the larynx, producing violent fits of coughing and drooping of the soft palate, of which the patient complains greatly and begs that it be lifted up.

This case is interesting, first because it involves the right cord instead of the left; and, second, because in simple abductor paralysis the chink of the glottis is in perfect alignment from before backwards, whereas in paralysis of the recurrent laryngeal nerve the direction is oblique, and there is no aneurism of the subclavian or innominate, and as the soft palate is also paralyzed, together with the general history of the case, it would appear that the existence of a central lesion would be beyond question. The patient has therefore been ordered large doses of iodide of potash and intra-laryngeal applications of electricity.

We hope for marked amelioration of the condition as soon as the patient becomes thoroughly iodized.

As already stated, these cases are not intended to show anything rare or uncommon, but are rather typical illustrations, where cough, gagging, and other reflexes—whether produced by inflammation or neurotic reflex irritations—were limited entirely to the throat, they should be treated

alone by local applications to the throat, except where central lesions or disease of other organs at a distance exist.

2nd. In these neurasthenic cases, the lung involvement is always a secondary result, and occurs only after a cough has existed for a long time, as proved by the local absence of all physical signs of lung disease.

3rd. As the bacillus has often been found in the throat and nose before it has invaded the lungs—being a proof of primary tuberculosis of the throat—and as it has never been found in the lung until the disease is well-advanced, a critical examination should therefore be made of the throat in all cases of cough or diseases of the respiratory organs before a grave prognosis be given.

ART. IV.—Role of Chloride of Sodium in Pneumonic Fever.

By THOS. R. EVANS, M. D., of Burlington, Iowa.

This is not an essay to prove a chemical or physical etiology for pneumonia; it is simply suggestive.

Physiology.—Common salt exists in all of the solids and fluids of the body except in enamel. In the male adult it exists in the proportion of about a fourth of a pound avoirdupois. Flint says, in his *Physiology*:

“It certainly determines the quantities of exudations, regulates absorption, and serves to maintain the albuminoids in a state of fluidity. A strong solution of chloride of sodium is capable of preventing the formation of fibrin. It regulates the quantity of water entering into the composition of the blood-corpuscles, thereby preserving their form and consistence. As an inorganic proximate principle, it is next in importance to water.”

Salt Stasis.—From some unknown cause, the blood in pneumonia, as it passes through the lungs, gives up quite a large amount of salt, some of which is excreted in the sputa, as much as 10 per cent. of which may be salt.

Redtenbacher found the urine in eighty cases of pneumonia entirely or nearly devoid of salt; and this has since been the experience of all clinicians.

When the sputa contains but little salt, the urine contains more. As the normal quantity of uncombined salt excreted by the kidneys alone is over two and one half drachms per day, and as for an average period of four days in pneumonia there is no salt in the urine, this accumulation of salt must exercise a deleterious influence upon the functions of hæmatisation and nutrition, and possibly irritates the parenchyma of the lungs; for salt produces emesis by irritating the stomach, and for the same reason checks hæmoptysis.

In health, the amount of salt in the blood is constant, whether salty food is eaten or not; and that the absence of salt in the urine in pneumonia bears no relation to the lessened amount of food, is proven by the fact that no salt will appear in the urine during the active stage of pneumonia, however much salt may be given.

Pneumonia and Pregnancy.—Fortunately, pneumonia is not frequent in pregnancy, although in that condition there is a considerable increase in fibrin, a lowered vitality, and sometimes a longing for salt. A story is told, which, of course, will be taken *cum grano salis*, of a woman who ate fourteen hundred salt herrings during her pregnancy.

The activity of the kidneys, the increased vaginal secretion, the needs of the fœtus, which secretes one half of the amniotic fluid in the form of urine, serve to keep the salt in healthful proportion. Besides, the amniotic fluid would seem to be highly excrementitious, being sometimes "very offensive and discolored in women who work in tobacco factories."—(Parvin.)

Geographical and Racial.—The fact is apparent that in those countries and among those people who eat largely of salted food, the disease is common. It increases from the north pole to the equator. Hence the Esquimaux, and probably the orthodox Jews, are not so liable to it. The wild American Indian should furnish exemption, and I turned with a degree of confidence to Dr. Holder's interesting article, "Papers on Diseases Among Indians," *Medical Record*, p. 181, 1892. He said: "It may be observed that the form of pneumonia prevalent among Indians is almost

exclusively catarrhal; of the croupous or lobar form, I have not seen a single case in two winter's practice."

The Esquimaux's meat is preserved by climate; the orthodox Jews do not eat the salted meat of swine, and the American Indian, in his primal condition, eats "wild meat jerked or dried, without salt." The Irish peasantry furnish a minimum of cases, their food consisting largely of potatoes. The Swiss, from the nature of their animal food, the products of the cow—many of them not even eating salted butter—are probably comparatively free from the disease.

On the other hand, the Swedes, who eat largely of, and export salt meat, furnish many cases; and in Stockholm the disease is sometimes peculiarly severe. There is less pneumonia in beef-eating England than in sausage-eating Germany, or in croquettes-eating France.

The Southern negro is particularly subject to the disease, and according to Dr. Flint, it often proves the scourge of the sugar and cotton plantations. In him it frequently involves more than one lobe, and is often fatal. His meat is "filling," "Old Ned," or "sow belly,"—*i. e.*, salt pork, from infancy. His baby's "sugar rag" is often a piece of bacon skin tied to its big toe. His delight is in hog and hominy, and he would not swap a pound of "side" meat for five pounds of tenderloin. The civilized negro in general, from his love of salt pork, furnish many cases of pneumonia.

The inhabitants of tropical and of subtropical regions bordering salt water, from a preserved fish diet, should be liable to the disease. If the country and town statistics in the United States were gathered, there would probably be proportionately more cases of pneumonic fever in these places than in the cities. For obvious reasons the countryman and townsman eat more salt meat than the inhabitants of cities.

Although from the growing habit of a salty breakfast in the cities among the native Americans, and the foreign population with their customs, the pneumonia rate is increasing in the cities. In the cosmopolitan city of New York as

compared with London, it has been increasing for many years.

Intemperance and Pneumonia.—Pneumonia in the intemperate is sometimes called *alcoholic pneumonia*; but, like the names, malarial (intermittent), epidemic, sewer-gas, and traumatic pneumonias, they are nosologically faulty. The alcoholic seems predisposed to the disease, but it is very doubtful if such active diuretics and diaphoretics as whiskey and beer are the direct causes. Drinking men are much given to eating salty food, and often sprinkle salt upon their beer. Some of the injurious effects of certain beers are due to the salt added before they are sent out from the brewery.

Chronic gastric catarrh, with more or less dilatation of the stomach, prevent the drinking man from enjoying and digesting his food unless it is much salted.

Given the control of an alcoholic's salt and an abundance of fresh meats and fruits, and the craving for liquor is greatly diminished.

Salt is the saloon-keeper's drawing card, and on the principle of ancient ties, he liberally supplies it.

Pathology.—Pneumonia, like certain diseases which have several alliances to it—rheumatic fever and idiopathic tonsillitis, or tonsillar fever—is somewhat more frequent in men than in women.

At the menstrual time of life only one woman to two men has the disease.—(Juergensen.) Women do not ingest as much salt as men ingest, and they excrete much of it through the sexual tract. It is probable that the active stage of gonorrhœa in the male is a prophylaxis against pneumonia.

From the nature of *diet in winter and spring*, the lessened physical exercise, the *lessened activity* of the *skin*, together with a *moist atmosphere* and *changeable temperature*, *pneumonia* is more *prevalent* at those seasons. The skin, when active, excretes more salt than it does all of the combined organic matters. The unemployed are more apt to have pneumonia than the employed.—(Juergensen.)

That the sudden chilling of the body does not alone cause pneumonia, is proven by the fact that it is almost pathog-

nomonic of the disease when a person is seized by a severe chill late in the night after he has been warmly covered in bed for several hours.

In no other disease is there such retention of salt in the system. Beale, who has probably given more attention to this than any other writer in the English language, gives the following analytical table of a case of pneumonia:

Salt.	Per cent. of Solids.
Urine.....	.0
Blood from heart	0.68
Hepatized lung.....	2.59
Healthy lung.....	1.43

The amount of salt in the healthy lung, or in the lung which is not the *active* seat of pneumonia—for pneumonia is as much a constitutional disease as is typhoid fever—may go far to explain the collateral œdema of which authors speak.

The microscope is a most useful, wonderful, and interesting apparatus, but with it we may “strain out a gnat and swallow a camel.”

In 1880, Dr. Sternberg discovered in his saliva a bacterium, which goes in pairs; hence the name *diplococcus*. It was afterwards frequently found in the pneumonic exudate, etc.; but it is also found in the mouths of well people to the extent of about 12 per cent., I think. It is quite generally found in the mouths of patients with measles.

It is therefore found in a salty medium, the saliva, and to certainly produce pneumonia in the lower animals it must be injected into a salt-eating animal, as the mouse. In rabbits and guinea pigs such effect is inconstant.

A better test could be made in highbred animals, as in certain cows and horses, which are much subject to pleuropneumonia. These animals are much given to eating salt.

We are merely upon the threshold of physiological knowledge, and it may be that our successors will laugh at us for squinting at moles when pathological beams will stand out. However, I do not deny that pneumonia is due to a micro-organism, for many facts point in that direction.

At certain times in the twenty-four hours the saliva is death to certain animals. Louis Fischer says: "If you take some of the morning sputum before cleansing the teeth, and hypodermically inject a mouse, you will find that death usually ensues in twenty-four hours from a septicæmia."

The nose, the male urethra, and the vagina normally contain pathogenic organisms; "so it is easily explained why, under certain conditions, be they cold, trauma—in other words, any subnormal condition—the reactive powers of the body are lessened to such a minimum that pathogenic bacteria can, and do enter, causing different pathogenic conditions." At night, the excretions and secretions become more concentrated and acrid, and hence it is probable that the majority of gonorrhœas are contracted at night.

Since writing the above on the *probable prophylactic power of acute gonorrhœa against pneumonia*, I have seen two cases reported of pneumonia supervening on that disease, and all of the symptoms of gonorrhœa were stopped, and again returned with convalescence. The salt in the discharge went to feed the pneumonia, the constitutional and stronger disease.

Typhoid fever has a similar effect. In that fever in its typical, diarrhœal form, there is a transudation of salt into the intestines, and hence there is but little, if any, salt in the urine. And the danger is in proportion to the loss of salt and serum.

The same is the case in Asiatic cholera and cholera morbus, these diseases *eliminating* salt.

Dr. Nathan Smith, in a very long and varied experience, never saw a fatal case of typhoid fever wherein there was constipation throughout the attack.

Why salt is retained in the system in pneumonia, we do not know. Normally, next to water, it is excreted with the greatest ease. The rapid cell action in the lungs during pneumonia is said to attract the salt to the lungs. The pulmonary artery, wrongly so called, as it carries venous blood, contains salt from the venous and lymphatic systems. The pulmonary capillaries have only one coat and are exceed-

ingly thin, and would seem to present most favorable conditions for the osmosis of salt as well as of the gases, especially when the circulation slows down at night.

An Hypothesis.—The base, or, according to Niemeyer, the root of the right lung, is the most frequent seat for the commencement of pneumonia. This may be due to gravitation both of the essential cause or causes of the disease and its factor, salt. The right lung is larger than the left, the right pulmonary artery is larger than the left, and the branch which supplies the lower lobe of the right lung is larger than the branch which supplies the upper. When the disease begins in the left lung, it also begins in its base. The bases of the lungs are dependent when the body is erect; and in the normal attitude of sleep upon the right side, with cheek or shoulder upon pillow, the thorax forms a slightly inclined plane. As the pneumonic patient usually reclines on the affected side, the exudation of salt is further promoted.

The apical form of pneumonia in the aged lacks so many of the characteristics of the form under consideration, that it is probably catarrhal.

Frequency and Fatality.—Pneumonia is a universal disease, and from a very large number of deaths gathered by Jurgensen, it is next in fatality to phthisis. In New York city this spring, it was more fatal than phthisis. Because of its frequency, a comparatively large number of persons recover from it, and hence the doctrine of an intrinsic tendency to recovery in uncomplicated cases. One attack renders subsequent attacks more likely. Habits of dietary are early formed and seldom radically change.

The recurrence of pneumonia does not bear out the bacillary theory, as in typhoid and the eruptive fevers.

Pneumonia is not frequent in childhood, except in the catarrhal form. The amount of salt in the urine of children is three times greater than in the urine of adults.—(Flint.)

After sixty years of age pneumonia is very frequent, and

often fatal. Old persons eat quite as much as adults, but excrete much less salt.

It is a general impression that pneumonia is more fatal in the female, but as women do not go to hospitals in as large numbers as men, and as the statistics upon this subject are hospital statistics, it is doubtful if the disease is more fatal in them. The same argument probably applies to the *much* greater frequency of pneumonia in the male.

Reasoning from the analogies which have gone before in this paper, it is, however, more frequent in the male.

Treatment—Prophylactic.—This is eminently the age when the ounce of prevention is sought, and is becoming a bad time for the *business* or covetous doctor. The prowess of the English arms has been attributed to beef, and we think with reason. The greatness of Gladstone is by himself attributed to the thorough mastication of his morsels of beef. The English beef is the most savory beef in the world, and in all climates "John Bull" will seek beef with his last penny.

It has been said that a beef diet makes people irritable. Mrs. Ernest Hart says: "I am strongly of opinion that the ill-temper of the English is caused, in a great measure, by a too abundant meat dietary, combined with a sedentary life." Of course the latter portion of the quotation is of limited applicability.

On the other hand, a person whose meat is generally salted is underfed, for his meat albumen is altered for the worse, and he is a prey to degeneration of mind and body; and lacking the stimulation of the fresh juices of meats, he is apt to crave alcohol. His powers of resistance to disease are below par, and he is eminently subject to pneumonia.

Therapeutic.—After the disease process is inaugurated in the lungs, there are as yet no remedies which can directly affect it. If the analysis, noted above, by the eminent pathologist Beale in one case, is a criterion, the gastric juice in pneumonia must be in a similar condition to that in

which it is in cancer of the stomach. The old name for hydrochloric acid, *spirit of salt*, was very expressive. In health, salt constitutes two parts in 26 parts of the solid matter of the gastric juice. If there is such a small portion of salt in the blood in pneumonia as was found by Beale, the gastric juice must be much weakened.

Milk, which is such an excellent food in fevers, and is diuretic and absorbent, should be given highly salted in pneumonia. It should be salted in all fevers.

Prior and subsequent to feeding in pneumonia, the mouth and teeth and tongue should be wiped off with such washes as Meade & Baker's Carbolic Mouth Wash to promote cleanliness and appetite, and, according to the modern doctrine, to prevent auto-infection. Perhaps in no other disease is there such anorexia. Nor is there such sudden prostration except in Asiatic cholera.

In Dr. Bennett's 105 classical cases of pneumonia, in which he did not lose a case, he "nourished the weakened frame from the beginning." He gave milk and broths, and stimulated mildly with wine—commencing the treatment with salines.

The two most prominent indications in the treatment are to *nourish*, and to *draw the salt back* into the *general circulation*. Until salt reappears, in the urine, and in the sweat, there is no improvement.

Accordingly, in the most successful treatment, such old reliable remedies as spirit of mindererus, sweet spirit of nitre, and the acetate of potash, are used. From the many virtues of sweet spirit of nitre it is an efficient remedy. It also probably stimulates the respiration, for nitrite of ethyl is its characteristic ingredient, which is allied in manufacture and effect to nitrite of amyl.

Dr. Duncan, of Edinburgh, praised a combination of aromatic spirit of ammonia and sweet spirit of nitre as eminently diuretic and diaphoretic, and it is certainly more grateful to the patient than the muriate or carbonate of ammonia.

I have had no experience with jaborandi, nitro-glycerine, and strychnia.

It is important to promote sleep and relieve pain in pneumonia.

A very limited experience with the coal-tar products in this disease was very unfavorable.

A temperance crank is a very unsafe medical attendant in pneumonia in the aged, for ammonia has often to be exchanged for alcoholics; of course over-stimulation is to be avoided.

It has been suggested that a salt solution be hypodermically injected to supply the blood with salt, but it would probably be as useless as the same procedure in Asiatic cholera; in one case, it would go to the lungs, and in the other, to the bowels.

Peptonized food and dilute hydrochloric acid are much indicated, and hydrochloric acid lemonade, but slightly sweetened, is good to quench the intense thirst.

The tendency to asthenia is to be obviated by attention to the digestion. If, in a severe case of pneumonia, I had to take my choice of treatments as between feeding, including alcohol, and therapeutics, I would not hesitate to choose feeding.

ART. V.—Hypertrophy of the Lingual Tonsil.*

By F. T. CHAMBERLIN, M. D., of Washington, D. C.,

LARYNGOLOGIST TO EASTERN DISPENSARY, ETC.

Synonyms.—Hypertrophy of the lingual tonsil; hypertrophy or enlargement of the third tonsil; hæmorrhoids at base of tongue; varix, and also nævus, might be classed in some cases under this head.

The causes of this condition are varied. It is often found in subjects prone to constipation, to liver disturbances, to various dyspeptic conditions, hæmorrhoids or diseased conditions of the vessels elsewhere; in females, with a previ-

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, May 14th, 1894.

ous history of menstrual disorders, and at or after the menopause, especially in those afflicted with a hairy growth about the face. Pregnancy may occasionally figure as a cause; in these cases it is usually associated with a reappearance of a previous chronic rhinitis with deflections and outgrowths from the septum, etc. It is also found in rheumatic dyscrasiæ, with or without previous hypertrophy of the parts above, such as the faucial or pharyngeal tonsil, otherwise known as adenoids or hypertrophy of Luschka's tonsil.

In males, oftener than in females, it is associated with an elongated and usually a hypertrophied uvula, with the anterior pillars and soft palate setting well out from post-pharyngeal wall in such a way as to bring the uvula well against the base of the tongue during movements of the mouth and in deglutition.

Lastly, but not least, the constant use of alcohol and tobacco, and certain trades that would expose this part of the throat to irritation; disease germs may colonize here, and produce this condition of hypertrophy.

Symptomatology.—The symptoms are as varied as the causes, and if occurring in connection with menstrual disturbances, they are usually of a nervous or hysterical character, such as sensations of a foreign body in throat, tickling, or tight grasping condition, as if a hand were holding the throat, or perhaps globus hystericus, or spasm, that may extend to the larynx, probably owing to the epiglottis becoming caught, or, as Cohen expresses it, "imprisoned by the hypertrophy."

The above symptoms are apt to be worse during or about the time of the menstrual period.

If following a debauch, there may be a sense of fullness in the throat, as with a change of voice during conversation, as if mucus or something had suddenly filled up the part, giving a weak, muffled sound, when, from derangements of the intestinal tract or liver, the symptoms are aggravated at the time of the exacerbation. When a varix is present, there may be a taste of blood in the mouth, partic-

ularly in the morning on arising. If the vessels are large, with thin walls, a slight hæmorrhage may occur after violent exercise, in which case the blood is usually dark in color, while the vessels, on examination with the mirror, show a fly-specked condition for quite an extent of their course, owing to spots of coagulum within. The image of the parts in the mirror presents varied appearances, and the position of the mirror depends somewhat upon the construction of the pharynx. In accordance with this construction, the mirror should be held well up against the uvula, or moderately so, in order to get a good view of the part.

The image may show a unilateral or a bilateral hypertrophy, with or without varix, or with a condition of varix alone, or a plugging of the lacunæ by a white fœtid ball like mass, which may be coughed up. This may give a decided odor to the breath similar to that which is known as lacunar tonsilitis.

This latter condition I should consider as being almost a separate disease, and, in consequence, as rightly entitled to a distinct name, as several of those claimed by the faucial tonsils.

As the condition is the same as that of the faucial tonsil, known as lacunar tonsilitis, I would suggest the name of "tonsilitis lacunæ lurquæ."

When simply unilateral or bilateral, the image is one of enlargement of contour, showing a more or less irregular or slightly adenoid appearance, usually depressed in centre if bilateral.

The color depends upon amount of plethora and of acute inflammation present.

When varix is present, the image shows vessels ranging in size to a small slate pencil, their size decreasing as they progress upward toward the anterior surface of tongue, their color ranging from a dark blue to a reddish tinge, as the smaller or more superficial ones are reached.

The pathology of this condition of hypertrophied tonsil

is similar to that of the lymphoid structures of the other tonsils.

Treatment.—If chronic rhinitis, pharyngitis or hypertrophic disease of the other tonsils exist, proper treatment should be used to overcome the same. Attend to the etiological factors, such as menstrual disorders and others, as have been mentioned.

Thyroid enlargement should be attended to both by external and internal treatment.

When the epiglottis is engaged or imprisoned in the tonsil, causing symptoms such as were previously mentioned, and where the organ has taken on a hypertrophical condition, first treat the tonsil, and afterwards reduce the size of the epiglottis. Should it not return to normal with reduction of the tonsil, astringents are, as a rule, unsatisfactory, and are apt to act as stimulants to the growth.

Argentum nitratis, in 20 per cent. to 40 per cent. solution, may occasionally be indicated as well as cocaine or menthol. The latter, I believe, gives better results in the way of relieving irritation when used in the form of spray with fluid alboline. The solid stick is superficial in action, while the danger of its becoming detached from the probe and dropping into the parts below should deter us from using it. The acids, with chromic at the head, are apt to cause spasm of the glottis or excessive inflammation, to say nothing of the possibility of their spreading or dropping into the parts below. The treatment, par excellence, is with the electro-cautery, at a cherry heat, from three to six points being attacked at a time. In case varix exists, the application of the knife should be made as low down as possible, and transversely to the vessel.

When the knife is applied at white heat, hæmorrhage may occur and the blood drop into larynx, causing spasm, as happened in a case upon which I was operating about three weeks ago.

The faradic current might be suggested, although I have had no experience with it in these cases.

ART. VI.—Proprietary Medicines.

By J. E. CHAMBERS, M. D., of St. Louis, Mo.,

PRESIDENT OF COD-LIVER GLYCERINE COMPANY.

There are occasional outbursts of abuse on proprietary medicines in general, without regard to any in particular, by some member of the profession; the last of which I have noticed was from Dr. W. E. Todd, of Jackson, Miss., in a paper read before the Mississippi State Medical Association, and subsequently published in the *Virginia Medical Monthly*, May, 1894, under the caption of "Proprietary Medicines—A Grave Error." In this paper, the profession is charged with quackery by the sweeping assertion, "proprietaries are being poured down a multitude of persons by a horde of quacks who know no more of what they are giving than the poor fools that are being gulled. When reproached for their gross ignorance, their subterfuge is, 'Why, Messrs. Smith, Brown & Co. are as reliable as any firm, and don't you suppose the thing is what they say it is?' Poor unlettered fools, don't you know Messrs. Smith, Brown & Co. are simply making their proprietary preparation for the money that is in it?"

I wonder if Dr. Todd is not practicing medicine and prescribing his officinal preparations also "for the money that is in it." In a general practice of over fifteen years, I have observed that the medical profession are not practicing medicine for their health. The same may be said of the men that gather and prepare, and the druggists that sell, the officinal drugs. They all do it "for the money that is in it;" and, strange to relate, the more "money that is in it," the better they appear to be satisfied. And yet proprietors of medicines are "frauds" because they do business "for the money that is in it."

A man sickens, and sends post-haste for a doctor, who, when he arrives, prescribes a proprietary medicine; which, for the sake of illustration, we will say cost the proprietor three cents, and which he sold to the druggist for fifteen

cents. The druggist charges the patient fifty cents, and the doctor charges two dollars for the visit. The total cost to the patient is two dollars and fifty cents on an original investment of three cents. It saved the man's life (so the doctor said), and is very cheap indeed. He is permitted to support his otherwise widow and orphans; the family save funeral expenses, besides their support for years; to say nothing of what the insurance company saves. The proprietor's (fraud's) profit is twelve cents; the druggist's profit is thirty-five cents, and the doctor's profit is two dollars. Verily, verily, we all seem to be in it "for the money that is in it."

In the course of his paper, Dr. Todd states that medical journals are the most to be blamed, because their existence depends on their advertisers, and that "the publishers know them to be arrant frauds." He also says: "It certainly seems that the medical profession and medical journals have become veritable Jonahs, and have been swallowed up by these gigantic frauds."

This is a practical age, and let us (even doctors) become practical men. Doubt is the stepping-stone to wisdom, and wisdom is the result of exhaustive investigation and mature thought.

Medicines used by the profession are divided into two great classes—officinal and proprietary. Officinal could better be expressed by the word common, because it is common property. The patient whom you treat has an equal right with all other men to manufacture any officinal drug, and to find demand for his goods sells cheaper; to do which he produces an inferior article. The druggist, from a business principle, buys where he gets the cheapest.

This age of fierce business competition is also the age of inferior production and adulteration. Nothing is so calculated to cause inferior production and adulteration as fierce business competition. We now strike the shoals on which the science of medicine has floundered for years, while the science of surgery has been constantly advancing. The leading medical men for years have been asking themselves

the questions: Is medicine really a science? Or, is it empiricism? They have ceased to say what medicine will do, but simply what it should do. The medicine (official) purchased on a prescription may contain impurities and adulterations sufficient to change its actions, or render it inert.

A doctor reports a successful treatment with official drugs; the doctors all over the country try it and fail, because they use some other firm's make of drugs. After losing their patients, friends, and reputations, they are disposed to curse the doctor who published his experience and doubt the science of medicine. The reasons for different actions of official drugs made by different firms may result much from the different facilities, process and machinery employed in production.

Manufacturing is a science. Certain manufacturers attain a higher skill than others, because they carry their process nearer to perfection; among which may be named the I. X. L. cutlery, the Disston saw, the Wade & Butcher razor, and many others. The means by which this high-class article is produced is kept a profound secret. The same may be said of all high-grade chemicals and official drugs. When you enter their factory offices, the sign on every door leading to chemical rooms is "No Admittance." The secret they wish to guard by this sign may be either their process, their machinery, or their improvements, all of which go to make up their superior product. I think I am safe in saying that nine-tenths of the official drugs are manufactured behind doors bearing the sign "No Admittance." How different from the door of the doctors' office, their defenders, which says, "Walk In." I have visited many factories manufacturing official drugs, and I have the first yet to see that does not employ the sign, "No Admittance." The "No Admittance" sign shows that the process, or something pertaining to it, is a secret. Manufacturers of official preparations put the "No Admittance" sign on their factory doors, while proprietors put it on their bottle labels; the former is a "lock-out," the latter is legal.

Officinal articles are commercial articles, and subject to all the abuses of adulteration, inferior production, production by cheap and unskilled labor, and also subject to all the various forms of manufacture. A proprietary article is all manufactured by one factory and one process, and whatever merit it has proved to have in the hands of others you may reasonably expect yourself. I am not saying that all proprietary medicines are valuable, but merely that uniformity is nearer the rule with them than with officinal products. Many officinal drugs are "back numbers," and many proprietary articles will go the same way, because many are mere mixtures without chemical union. Proprietary medicines, whose base rests on chemical union, will stand as long as the science of chemistry stands. Cod-liver glycerine is as true a chemical product as glycerine itself; and it may be well to state in this connection that all glycerines are made by secret processes.

The efforts of proprietors of medicines have been to make active medicines palatable, nauseating medicines pleasant, and insoluble medicines soluble, so that the patient could take, and the system appropriate them. The result has been that sickness has been robbed of half of its horrors.

If the man who causes two blades of grass to grow where there had formerly been but one is a human benefactor, what must be said of him who has transformed nauseating and disgusting medicines into pleasant and palatable forms to soothe the sick? He certainly deserves better treatment at the hands of the disciples of *Æsculapius* than to be called a fraud.

Lotsil

Is the name of a compound of thymol-acetamide, recrystallized, purified, and combined with citrate of caffeine, mono-bromide of camphor, and sodium bicarbonate. The formula accompanies each package, as sent out by the manufacturers—the Listol Chemical Co., of Chicago, Ill. It reduces temperature and relieves pain very promptly, without subsequent depressing effects.

ART. VII.—Clinical Lecture* on (I) Diagnosis of Beginning Epithelioma—Vaginal Hysterectomy; (II) Fibroid Tumors; (III) Absent Uterus.

By E. E. MONTGOMERY, M. D., of Philadelphia, Pa.

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(I) Vaginal Hysterectomy.

The patient I bring before you to-day is a woman 35 years of age, Hungarian, whose family history is negative; general health has been good, married at 17, had nine children—one at six months; twice has borne twins. She has been in good health for the last two months; missed her sickness for two periods subsequently; began to bleed, and had quite severe hæmorrhage. Suffers from severe pain in the abdomen and pelvis; appetite lost; sleep disturbed; bowels constipated; while there is nothing abnormal in the urine. On examination, we find laceration of the cervix; the parts are enlarged, rather soft to the touch, and break down under the finger, giving rise to increased bleeding. There is also an indication of some lesion of the posterior wall of the vagina; probably at one of her labors there has been considerable pressure upon the mucous membrane, giving rise to desquamation of the epithelium, and the abraded vagina and vaginal wall has subsequently become adherent to the cervix, producing cicatricial bands.

I bring her before you to-day to remove the uterus, as the indications are quite strong of beginning epithelioma. In performing this operation, we are particularly careful to have the vagina and external parts thoroughly cleansed. The vulva has been shaven, and we will cleanse the vagina by the use of creolin and soap solution, taking two per cent. solution of creolin with two ounces of tincture of green soap to the quart. With this solution, the vagina is thoroughly scrubbed, wrapping the finger with some sterilized wool or gauze, and in this way accomplishing its thorough cleansing. This will be followed by irrigation with hot sterilized water.

The operation in this patient is not likely to be a difficult one, for the reason that the disease has not as yet de-

* Delivered at the Jefferson Medical College Hospital, February 13th, 1894.

stroyed the cervix, so that the organ can be readily manipulated. In the case upon which we operated a few days ago in the house, the operation was exceedingly difficult, for the reason that the cervix was entirely destroyed, and it was impossible to secure tissue firm enough to hold the instrument. The mucous membrane of the anterior surface of the vagina was denuded some distance away from the cervix in order to make sure of the entire removal of the disease.

As I draw down upon the cervix, this patient's bowels begin to move, which of course is an annoying occurrence after we have had the parts thoroughly cleansed. To prevent our instruments and hands from being soiled with the contents of the bowel, we will pack the rectum with a wad of iodoform gauze, thus preventing further evacuation.

Now, the first step in the operation, after seizing the uterus with a volsella, is to encircle the cervix by an incision through the vagina, beginning anteriorly and carrying the knife around, keeping it some distance from the diseased surface. The vagina is now pushed up anteriorly and posteriorly; and for this purpose there is no better instrument than the finger, because by it you can determine the resistance of the tissues pushed off, and thus avoid the danger of injuring the bladder or ureter. Having pushed the tissues up posteriorly until the peritoneum is reached, this is opened and a sponge, with a string attached, is pushed into Douglas' pouch. This serves a double purpose: First, to keep the intestines and omentum from being prolapsed; and, second, blood and other material from the vagina from being carried into the abdomen to infect that cavity.

Let me urge upon you, however, the importance of making sure that your gauze-pad or sponge is secured by a string or tape, as its introduction into the peritoneal cavity without may lead, through the peristaltic action of the intestines, to its working its way up toward the diaphragm, rendering it exceedingly difficult to remove it. In a case, some time ago, I introduced a sponge temporarily without anything to secure it; when I came to remove it, it was exceedingly difficult to reach, hard to distinguish from the omentum, and I began to have visions of the necessity of opening the abdomen in order to secure it.

Having opened posteriorly, we now open the peritoneum in front of the uterus, where we have that organ attached only by the broad ligament on either side, through which the supply of blood enters. This, as you know, is supplied by the uterine and ovarian arteries, which anastomose along the side of the uterus. These vessels may be secured by ligation of the broad ligament, either en masse or in section, and the uterus subsequently cut off. This procedure, however, requires some length of time. There is always a certain amount of danger of the ligature slipping, and when it does, it is exceedingly difficult to secure the bleeding vessels. For this reason, I am in the habit of using a clamp, which is a modification of Greig-Smith's. The one bar is passed posterior to the uterus, and the other in front of the broad ligament, the internal ends locked, and the external ends brought together and held by a screw.

Where the uterus is not readily displaceable, the application of the first clamp is sometimes pretty difficult. It is difficult to lock the external ends. When it is applied, we cut through the broad ligament between the uterus and the clamp, and the organ may then be delivered and the other clamp applied with much less difficulty. On the application of the second clamp, the uterus is cut away; the sponge or gauze-pad is then withdrawn, and the cavity irrigated with hot water. After drying it, we introduce a gauze tampon or dressing, carrying it well over the end of the clamp, and filling up the spaces between the clamps, thus permitting free drainage, and at the same time controlling the possibility of the downward displacement of the omentum or a coil of the intestine. The gauze packing carried thus high prevents a coil of the intestine from falling into the raw, denuded surface below the peritoneum, becoming agglutinated, and endangering the subsequent obstruction. The clamp is permitted to remain for twenty-four hours—the gauze dressing for three or four days. After the gauze is removed at the end of the third or fourth day, the parts are permitted to remain for three or four hours undisturbed, avoiding even irrigation. The withdrawal of the gauze permits the peritoneal surfaces to fall together, become agglutinated, and thus prevents prolapse of coils of intestine and subsequent cicatricial obstruction. Irrigation is then practiced two or three times in the twenty-four hours with a 1 : 30 solution of sulphurous acid. If the discharge is offensive, and there is an elevation of temperature, irrigation should be more frequently practiced.

The patient from whom we removed the uterus five days ago has had a maximum temperature of 100°; yesterday it was 99°; the gauze was removed yesterday, and the patient is now in good condition. During the first twenty-four hours she had considerable pain and distress. The operation was unusually difficult on account of the destruction of the vaginal portion of the uterus and the difficulty in securing a sufficient amount of tissue to hold with the forceps. The case is one in which we had but little hope of immunity against subsequent return, although her general condition of health was such as to make us feel that it was right to give her the benefit of the doubt.

(II) Fibroid Tumor and Cancer of Uterus—Diagnosis.

A paper just handed me from one of the students asks the *differential diagnosis between sloughing fibroid and cancer of the body of the uterus*. I appreciate this inquiry, and always welcome such indication of interest on the part of the students. The subject is one of considerable interest, and sometimes of importance. In both cases, we may have had hæmorrhage, and we have offensive discharge with not infrequently severe pain. Now, these three symptoms are considered to be characteristic *symptoms of carcinoma* of the uterus. Of course there will be no difficulty in diagnosis of malignant disease of the cervix, as here the development of the disease, sensation to the touch, the friable character of the tissue, with the indurated base, the increased bleeding, all would indicate the probability of malignant disease. The mass situated within the uterus is a more difficult problem. It may be necessary to dilate the uterus in order to determine.

In fibroids, however, which have attained a size sufficient to permit their loss of vitality and subsequent sloughing, we find the uterus is considerably increased in size—that it is not infrequently tender. There may be some pelvic irritation present as a result of the decomposing mass within the organ. There is a history of elevation of temperature, possibly chilly sensation. On making examination, we may find the uterus closed, or, more likely, partially dilated. Introduction of the finger within it will lead to the deter-

mination of the globular or spherical mass which fills up the uterus in the case of the fibroid; while, in malignant disease, the organ is smaller. The indications of the presence of any growth within it are illy defined or absent and upon dilatation of the uterus and the exploration of the cavity with the finger or the sound, where there is a fibroid, a mass will be felt filling up the cavity. This mass may be friable, so the finger may be pushed into it. The odor is quite offensive, and in separating the mass we will find that it has the characteristic structure of the fibroid by the fact that it has undergone the loss of its vitality. In malignant disease, on the contrary, the infected surface will present possibly an elevation, or an excavation of the wall with an indurated base and with a tendency to hæmorrhage on the slightest touch. Fibroids do not usually occur in women who have borne children, but, as a rule, in women who have been sterile. Malignant disease is more likely to occur in a woman who has had a number of children. It should not, however, be asserted that because a woman has malignant disease she has given birth to a child. This is not true, as I have seen a number of cases in which the disease existed in the unmarried. It should not be forgotten, also, that a fibroid tumor may undergo malignant change. I have had the misfortune to operate upon a case of this kind for a gentleman here present, in which the patient died during the operation. It was found that the disease involved the entire uterine cavity, and that a large fibroid was situated in one wall.

(III) Absent Uterus.

This patient is of interest for the reason that she gives a history of menstruation somewhat irregular in character, and upon careful examination made at the office, not under an anæsthetic, I could not find the uterus. The vagina ends a little more than an inch from the vulvar orifice in a cul-de-sac. There is apparently no sensation of anything above it of the character of the uterus. As the vulva is separated you see the anterior wall of the vagina projecting, from which there is a slight amount of bloody exudation. I pass the finger here and there to the depth of the vagina, and

feel something in front of it that gives me the idea that there is a possibility of the uterus. I cannot say definitely that there is or is not some resisting mass above. I am unable to distinguish any protrusion in the vagina, anything that seems like a uterus. We now examine by the rectum to see if we can find through it anything of the uterus, and am unable to find any mass whatever. The finger is passed well up, so it passes over what would be the fundus of the uterus, which is in this case simply a fold of the peritoneum. I draw this down, and am not able to distinguish anything like the uterus. I pass the finger well out to the right side to see if I can find an ovary. I find a small mass the size of a grain of corn situated in the left side, which is evidently ovarian tissue. This is more marked on the left than on the right side.

In some cases, we find a bicornate uterus. In this, however, there is nothing of that kind, as even the remnants of Muller's ducts cannot be found. It is one of those cases in which there has been arrest of the development of the uterus, whether from the duct of Muller, due to some inflammatory condition while this process of development was going on, we are unable to say. There has been developed, however, the uro-genital sinus in the three divisions of the rectum, vagina and urethra. We can see here a cul-de-sac; we sometimes find a continuation of it. I once saw a patient where there was an apparent absence of the vagina. The woman became pregnant. This was due to the fact that a small sinus extended up to the uterus.

In this patient, however, there is no sign of any such condition. As I separate the orifice, it appears a mere cul-de-sac. The tissue you see protruding is the end of this sac. In such cases as this, it becomes a question what is best to do. Of course this vagina can be enlarged, making a longer one, but it would be simply cicatricial tissue and give rise to more or less trouble. If there were an accumulation above in the uterus, the operation would be justifiable, but there is no uterus. No operation could be done that will consequently afford the patient a cure. She has an ovary, which undoubtedly performs its function, as there is an effort at menstruation indicated by the distress and weight in the pelvis, more or less menstrual discharge, the exudation of blood from the vaginal wall.

Sometimes we find in the individual manifestations of accumulation of fluid, which, if not relieved, undermines the health of the individual or causes severe pain. The one operation to be done is the evacuation of the sac. If she suffered from very marked distress and pain at the menstrual periods, with the absent uterus, the indication would be to remove the ovaries. This, however, will be left to the patient herself to decide.

Clinical Reports.

Division of Both Tendines Achillis by a Mowing Machine.

By **GEORGE TULLY VAUGHAN, M. D.**, of Washington, D. C.,

PASSED ASSISTANT SURGEON U. S. MARINE HOSPITAL SERVICE.

In the present advanced state of the science and art of surgery, it is scarcely necessary to invite the attention of the profession to the importance of uniting the ends of divided nerves, muscles, and tendons. The attending surgeon, in a case of this kind, who neglects to approximate and suture these structures when divided, or at least make an attempt to do so, would be considered as having failed in his duty.

The following case is given as illustrating the satisfactory result which followed immediate approximation and suture of both tendines achillis after division :

In the summer of 1887, I was called in a hurry to visit E. H., a robust young farmer, aged about thirty years, on account of injuries received from a mowing machine. His account of the accident was that he was standing in front of the blade of the machine arranging something about the gearing of his horses, when they suddenly started, and before he could get out of the way the blade was upon him, striking his feet from under him, so that he fell over, fortunately, behind the blade. On attempting to arise, he found that he was unable to walk, and was assisted to his house.

On examination, his legs were found covered with blood, and in one leg it was discovered that a piece of the os calcis containing the insertion of the tendo-achillis had been

chipped off; in the other leg, there were two or three transverse incisions over the tendo-achillis, one of which had completely divided the tendon about three inches above its insertion, and the upper end had retracted out of sight, but could be felt by the finger separated at least two inches from the lower end. The parts were cleansed with water, the upper end of the divided tendon was brought down by means of a tenaculum, the two ends united with silk sutures, and the wound closed. In the other leg, the fragment of bone was united to the os calcis by silk sutures passing through the bone and periosteum.

After dressing the wounds, splints were applied so as to keep the legs flexed on the thighs and the feet extended, thus securing the greatest possible relaxation of the tendines achillis. Dr. J. L. White, of Farmville, Va., assisted in the operation. The patient soon recovered, and had perfect use of his legs, but a small fistula, from which a few drops of pus would occasionally ooze, remained in the site of the wound, which had divided the tendon above its insertion, until about two months after the injury a hard knot of silk was removed—the remains of one of the silk sutures, emphasizing the importance of using sutures which have been made aseptic. The fistula then healed without further trouble.

Unfortunate Fingers.

By GEORGE CORRIE, M. D., of Blossom Hill, Va.

George Williams, negro, had two fingers "hurt by the cars," necessitating amputation (by some other doctor than myself).

His father is minus an index, I having amputated it after contact thereof with the proverbial "buzz saw."

I have amputated the right *digitus auricularis* of one of George's nephews, the hand having been caught in an apple-grinder.

I relieved another of George's nephews of his left *digitus auricularis*, the boy having fallen while carrying a sharp axe, the edge of which severed all tissues, artery and nerve, and entered the first joint.

All these finger-losers lived at one time in the same house.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,
 Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases
 of the Eye in the University College of Medicine, Richmond, Va.

Note Upon Vacuoles of the Lens

In 1891, I was consulted by Miss P., aged 41. She complained of inability to read for any length of time without discomfort, and that luminous objects, candle, gas flame, etc., when viewed through the right eye, were surrounded by thousands of rays of light proceeding from the flame as a centre. There are no colored rings about the flame. V., O. S. with $-\frac{1}{2}$ D cyl. ax. $135^\circ = \frac{1}{15}$ S. O. D. $-\frac{1}{2}$ D cyl. ax. $180^\circ = \frac{1}{15}$ S. Tension normal. No visible trouble in the fundus. Exactly in the centre of the lens of the right eye, when viewed with a +16 D lens, can be seen a distinct bubble, apparently about the size of the head of a pin. The presence of this bubble was the cause of the unusual appearance of luminous objects viewed with this eye. Except for this bubble, there were no visible changes in the lens.

This case asked two questions. The bubble had existed only a few months. What would become of it? What did its presence in the lens signify?

In May, 1894, I again had the opportunity of examining the eyes of Miss P. The bubble had disappeared, and with it the dispersion effect on light rays. The lens was transparent. The refraction of the eye had, however, changed. V., O. D. $+\frac{3}{4}$ D sph. c. $+\frac{1}{8}$ D cyl. ax. $120^\circ = \frac{1}{15}$ S. O. S. $+\frac{3}{4}$ D sph. c. $+\frac{1}{8}$ D cyl. ax. $30^\circ = \frac{1}{15}$ S. The patient, although only 44 years of age, required for near vision a $+2\frac{1}{2}$ D sph. c. $+\frac{1}{8}$ D cyl. lens. Her range of accommodation was small. There were no definite symptoms of glaucoma, although the patient had had one attack, the history of which was suspicious. No glaucomatous cupping.

This case shows that single vacuoles of the lens may disappear, and leave no traces of their former existence. The fact that the refraction of the eye, as measured by rhinoscopy, has changed within the past three years, is to be commented upon. This must be considered as due to changes in the lens. Whatever be the nature of these changes, their existence is further proven by the marked loss of elasticity in the lens substance; hence, the requirement of a far stronger convex lens than the refraction of

the eye plus the age of the patient calls for. There are two or three other symptoms marking the history of this case, chiefly subjective in character and not calling for comment just here, which point to further changes in the condition of the intra-ocular nutrition. The existence of the vacuole, then, in the case of Miss P., was a visible forerunner of more extensive pathological nutritive changes in the lens. Whether vacuoles occur in a lens otherwise healthy, and thus are without significance when viewed from the standpoint of prognosis, is a question.

In September, 1893, I was consulted by Mr. B., aged 40. He complained that of late when he looked at a sheet of white paper with his left eye there appeared a little to the right of whatever point he fixed his gaze upon, a round dark shadow, which moved as he moved his eye. Examination revealed a small bubble to the left of the centre of lens. After a few weeks, the shadow disappeared, showing also the disappearance of the vacuole. Mr. B.'s eye has shown no further pathological changes in nutrition.

Whether these will occur within the next three or four years, remains a question unsettled. This case shows also that single vacuoles of the lens may disappear.

In the few cases where I have seen bubbles in any number in the lens they have been invariably, where I could follow the cases, followed by a general clouding of the lens cataract. It is not impossible, however, to admit that if one vacuole can disappear, several may do so. Their presence, however, in any number indicates marked nutritive changes in the lens substance.

In the case of Mr. R., aged 24, I found in O. D. numerous lens bubbles, varying much in size, scattered throughout the lens from just beneath the anterior capsule to the neighborhood of the posterior capsule. In this case, a dim red reflex could be obtained. The details of the fundus could not be made with clearness. The lens appeared more or less faintly cloudy. Vision reduced to perception of the outlines of large objects. Some yellowish patches in fundus of O. S. No history of inflammation of eye. Seen one-and-a-half years later, the lens was completely cataractous. V, perception of light. The color of the lens was faintly milky, too dense, however, to allow the determination of the presence or absence of vacuoles.

In the case of Dr. M., aged 27, the vision, O. D., began without sensation of discomfort, to diminish in October, 1893, six months later, $V.=\frac{1}{10}$. Lens shows slight general clouding, with numerous bubbles throughout lens substance. Numerous speck deposits in Descemet's membrane. No demonstrable trouble of iris or ciliary region. No inflammatory appearance of eyes. O. S. normal.

April 1st, 1894. V., O. S. $=\frac{2}{50}$. No bubbles discernible in lens. General streaky clouding of lens. Deposit in Descemet's membrane gone.

July 15th, 1894. V., O. S. Perception of light; cloudiness has extended throughout lens substance, save for an elbow-shaped canal, one and one-half mm. wide in anterior half of upper and outer quadrant; no cause for this condition of the lens could be found; no injury; no specific, no malarial or other cachexial history. The eye was at no time inflamed, nor was there at any time, except for the deposit in Descemet's membrane, any suggestion of involvement of the irido-ciliary region. J. D.

Note on Limitations to the Accuracy of Javal's Ophthalmometer.

To the *Archives of Ophthalmology*, Vol. XXI, No. 3, Dr. G. Melville Black contributes an article entitled, "Does Javal's Ophthalmometer Render the Use of Atropine Unnecessary." He says, "After using Javal's Ophthalmometer continuously for two years and a half, I have arrived at the conclusion that it is sometimes deceptive; that it will register an astigmatism with or against the rule, when the eye will accept the cylinder in just the reverse axis from that indicated, even after careful tests under atropine. These instances are in the minority * * * being about 14 per cent. * * *"

When we consider the claims made by some, high in authority, for this ophthalmometer, the above statement deserves a moment's reflection.

Why are the results of this instrument sometimes "deceptive?" It is not the fault of the instrument, for this gives accurately the lined picture it is intended to give. It measures accurately enough the corneal astigmatism, and did the astigmatism lie solely in the cornea, we might dispense with atropine and with all other instruments than that of Javal, or one of its modifications, in our determination of this part of the refractive error. Unfortunately, however, for instruments intended to measure only the

outer curve of the eye, there exists a lens, which consists of two parts, cortex and nucleus. In making this division of the lens, I do so from purely a refractive point of view. In this connection, then, the cortex represents that part of the lens which responds to the action of the ciliary muscle in the act of accommodation; the nucleus, that part, naturally the central, which remains fixed and immovable in the act of accommodation.

It is, then, because there exists such a thing as lenticular astigmatism, that Javal's instrument and all modifications of it give, in a proportion of cases, so-called "deceptive results." Lenticular astigmatism exists in a much greater proportion of eyes than ophthalmologists seem as yet willing to admit. In cases where lenticular astigmatism exists, the use of a mydriatic is indispensable. To know the true refractive condition of the eye, we must find it when the eye is at rest.

The refractive power of the lens while accommodation is going on, and the refractive power during the complete suspension of accommodation are two different things. The latter represents the true refractive condition of the eye, and should be the basis of our prescriptions for glasses. With Javal's instrument, the corneal astigmatism may be measured, and when this instrument is carefully adjusted it does its work admirably. In some cases, when the corneal astigmatism has been determined, and glasses are ordered, our patient will not wear them. Why? We have not taken into consideration the lenticular astigmatism, which cannot be determined by any ophthalmometer measuring the corneal surface alone.

To determine the amount of lenticular astigmatism, we suspend the accommodation, and have recourse to retinoscopy. By this means we may measure, in most cases, the refractive power of the two chief meridians of the lens. At times we are surprised at the results thus obtained, for we may have a cornea, one of whose meridians is myopic, while the refraction of the corresponding meridian of the lens at rest is hyperopic as much as 1 D. Again, there may be one degree of hyperopic astigmatism for the cornea;

another for the lens. Again, while I have found in the majority of cases of lenticular astigmatism that the axes were at 90° and 180° , this is not always the case; the main meridians of the lens at rest may differ from those of the cornea. Retinoscopy, in the majority of these cases, is able to determine, with great accuracy, to *i. e.*, to less than $\frac{1}{4}$ D., the refractive power of the main meridians, and to distinguish between corneal and lenticular astigmatism.

Many of these cases of lenticular astigmatism require much time and care to work out, even with retinoscopy, which, however, is at present the only means, known to me, of determining with any accuracy the refractive condition of the lens. In a certain proportion of these cases of lenticular astigmatism, the nucleus of the lens can be shown, by retinoscopy, to be astigmatic. Hence, while in those cases in which the astigmatism is purely corneal, Javal's instrument represents a great advance in accuracy and saving of time, there remains still not a small per cent. of the cases of refractive errors where the results obtained by this valuable instrument are too much at variance with the actual state of affairs for it to be relied upon. J. D.

Note on the Patency of the Nasal End of the Lachrymal Duct.

The following case illustrates the possibility of inflammation of the lachrymal sac or duct being due directly to decomposing mucus blown into them from the nose:

Miss W., age 24, was operated on for nasal obstruction. A bony ridge was removed from the left side of the septum. While the septum was still bleeding, Miss W. was told to blow the blood from her nose. As she did so, I was surprised to see blood appear in the corner of her left eye. Pressure upon the lachrymal sac of this side forced out of both upper and lower canaliculi tears mixed with blood. All of this shows that there existed an undue patency of the nasal end of the lachrymal duct.

Examples of this patency of the lower end of the duct unusual, if not abnormal, are seen by almost every school boy in those heroes who "inhale their cigarettes and then blow the smoke through their eyes." Miss W. blew the blood from her nose through the lachrymal duct more than once while under treatment. J. D.

*Proceedings of Societies, Boards, etc.***MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.**

[Meeting, May 14, 1894. Reported by Dr. L. ELLIOT, Washington, D. C.]

Dr. W. P. Carr read a paper on

Local Anæsthesia. [See page 391.]

In opening the discussion, Dr. Magruder said that the subject has been handled so well that there is but little left to say. He has had very satisfactory experience with local anæsthesia. In an early case in which he operated under *cocaine for rectal polypi* in a child, after applying the ligature the child collapsed and artificial respiration was necessary; he was inclined to attribute the result to the cocaine. Operating a second time upon the same child, about a month later, the same symptoms of collapse occurred. It is questionable whether the cocaine could have been the cause of the collapse in the first instance. The symptoms were undoubtedly reflex. He has used cocaine anæsthesia in *circumcision*, but not in *bone felon*. In the latter, he has several times employed the *constant current*, placing one electrode in a cup with the finger and the other pole further up the finger. He recalled a case in which one of his assistants, suffering from a bone felon, was relieved in a few moments by this mode of treatment, both the pain and much of the swelling disappearing to such a degree that he was able to assist him. It is most useful in the early stages. The tablets he considered a very good idea. Recalled another case in which Dr. Hamilton had opened the pleural cavity after injecting about five grains of cocaine. There was no pain nor unpleasant symptoms.

Dr. Reyburn considered the dose of five grains of cocaine rather large. He had operated in a case of lipoma of the nose, in which a flap was formed to cover the nose, under cocaine anæsthesia; there was no pain. Many capital operations had been performed under cocaine anæsthesia; he mentioned a case of amputation of the arm by Dr. Hartigan. In circumcision he had used cocaine, constricting the penis above by means of an umbrella ring. The whole subject of anæsthesia was interesting, and he looked with pleasure at the return of chloroform as a substitute for ether. With chloroform, there was no bad effects upon the lungs, and none upon the kidneys, and in competent hands was safe. He, however, prefers a mixture of chloroform and

ether. In anæsthesia by ether, we have almost invariably a total suppression of urine, lasting from two to four hours, and in some cases this is followed by acute desquamative nephritis. Dr. Lawson Tait, he thought, reported, a few months ago, four cases in which he had deaths, after ether narcosis, in this way. The danger from ether is not at the time of the operation, but occurs afterwards. The patients may live for a number of days afterwards, and then die of symptoms of uræmia. He himself had nearly lost a patient in this way.

Dr. Dufour said he had little to add, as the subject had been well covered. There was a class of operations which had not been mentioned, viz: those upon the eye. Cocaine has taken the place of the general anæsthetic, with but few exceptions, in these cases. For cataract extraction, it is the ideal anæsthetic; also for iridectomies, as the danger to the eye from the retching and straining, caused by ether or chloroform, is avoided. In operations upon the nose and throat, he used cocaine locally by means of a piece of cotton saturated with a solution, and sometimes hypodermatically. The solution he used contains a small amount of strophanthine. Has had no bad effects from this drug, although, as a precautionary measure, has given patients a stimulant before operating. Does not approve of spraying the solution, as by this means the constitutional effects are more likely to be obtained. To prevent the formation of fungus in solution of cocaine, add ten grains of boric acid to each ounce of solution.

Dr. Bowée said he had been struck by the use of such large doses of cocaine, especially as serious results had followed small doses. Several cases had been reported to this Society by Dr. Johnson Eliot, and to the Medical Society of the District of Columbia by Dr. C. W. Richardson, in which there were severe toxic effects from small doses used in throat, nose and ear operations. Personally, he had had no bad effects in its use as a local anæsthetic in curettement, trachelorrhaphy, perineorrhaphy, and other vaginal operations, even when doing a number of these at one sitting. He could not agree with Dr. Carr in his objection to pulling the uterus down for operations—except there be decided adhesions to that organ. He did not think hypodermic tablets could be relied upon, as they often deteriorate and often contain less cocaine than their label indicated. He has had no experience in sloughing following hypodermic injections of cocaine, nor had he seen non-union as a result. He thought very favorably of chloroform as a general an-

æsthetic, and was glad to note such favorable comment upon it. Dr. Barton, of Columbia Hospital, had recently made examinations of the urine of patients that had been subjected to operations under ether, and thus far found albumen in every case, though absent previous to etherization.

Dr. L. Eliot said he had recently adopted, in some operations, a mixed anæsthesia of chloroform and cocaine, beginning the anæsthesia with chloroform and continuing with cocaine; this had proven especially satisfactory to him. He had done many operations under cocaine anæsthesia. Operations of great magnitude had been performed under the influence of local anæsthesia. Varick had amputated the thigh under cocaine, and ovariectomy had been performed under carbolic acid anæsthesia. To prevent the over-action of cocaine, he followed the plan of Dr. Hamilton, as stated in a paper read at the Milwaukee meeting of the American Medical Association, which was to administer either thirty drops of tincture of nux vomica or inject morphinæ sulphate, gr. $\frac{1}{4}$; atropinæ sulphate, gr. $\frac{1}{100}$; strychninæ nitrate, gr. $\frac{1}{30}$, half an hour before operating; this, with whiskey, will prevent any bad effects from the cocaine. As a spray, he had used the following formula:

Menthol	5j
Chloroform purif	3x
Ether purif	3xv.—M.

While this will produce a satisfactory anæsthesia, the menthol, possessing such a pungent odor, necessarily limits its application. Carbolic acid produces an anæsthesia which is satisfactory. An application of a solution of about five per cent. strength, followed by the application of pure acid, will permit the incision of abscesses and other operations. In using cocaine, he has never seen the absolute necessity of having the solution freshly made; has used a solution made five years without any bad effects.

Dr. Stone said he could testify to Dr. Carr's success in relieving pain, as he had personally experienced benefit from him in having an operation performed on his finger without pain. The paper was very interesting, but he did not think large doses of cocaine safe. Some years ago, through statements of a neurologist, he was induced to test the efficacy of cocaine in the treatment of a melancholic; the patient, for the time being, became partially insane. In another case, one of phymosis, there was constant motion noticed, as if in fighting away flies. He had seen cocaine intoxication from sprays in nose and throat work.

Dr. Johnson Eliot said he considered cocaine an ideal

local anæsthetic, and was very much pleased with it. His cases referred to by Dr. Bovée had followed its use in the nose. Since that time, in using cocaine, he had been administering ammonia or alcohol as a precautionary measure, but he would hardly administer a dose of five grains. Cold was serviceable. His attention had been called to chloride of ethyl by a dentist (Dr. Wiltberger), of this city, who used it extensively in his work, and it had been found to be very satisfactory as a local anæsthetic. Carbolic acid he had not used alone; thought a combination of Dobell's solution and cocaine seemed more effective than cocaine alone. He had understood Dr. Carr to state that anæsthesia could be obtained through the unbroken skin; in many attempts to thus produce anæsthesia, he had failed; so he doubted its possibility. Dr. Carr had claimed that cocaine was of little service when sprayed in the throat; with this statement he must differ, since, in his special line of work, he used quantities of it for this very purpose. Only this afternoon he had, with the galvano-cautery, touched the post-nasal glands, and in another case had punctured the faucial tonsil; in both cases, there was almost entire freedom from pain. Spirits of camphor, although a domestic remedy, is often useful in relieving pain.

Dr. Chamberlin said he was glad to hear Dr. Reyburn speak of the danger from ether anæsthesia. He is an advocate of chloroform. Uses cocaine very freely, but is more afraid of it than he is of either ether or chloroform. Has seen toxic effects following its employment.

Dr. E. L. Morgan said he had used solutions of hydrochloride of cocaine, both locally and hypodermically, with success. He remembered a case of circumcision, where cocaine had failed most signally to produce local anæsthesia. Had been told by a Chinaman, and others, that, in extracting teeth, the Chinese smear a paste upon the gums, and then employ the fingers instead of tooth forceps. The paste causes the gum to shrink, and consisted, so he had been told, of a strong preparation of mercury. He would not make these statements upon his own responsibility.

Dr. Carr, in closing, said nearly all the bad results from cocaine had been reported by rhinologists, and are cases where it was used in the nose or throat. We must remember that it only requires six drops of a four per cent. solution to make a quarter of a grain. The doses he had mentioned, as safe doses, are much larger than will be needed in many cases, and, of course, he does not advocate giving the maximum dose when a smaller dose will accomplish

the purpose. His idea is to keep giving small injections until the anæsthesia is complete or until the maximum dose is reached. Many operators have discredited the action of cocaine, because they did not give it time to act.

Dr. F. T. Chamberlin read a paper [see page 415] on

Hypertrophy of the Third Tonsil.

In the discussion, Dr. Mayfield said: Having given little thought to the subject, he hardly felt able to open the discussion upon the paper of Dr. Chamberlin; still he could not altogether agree with him as to the causes producing hypertrophy of the lingual tonsil. Hypertrophy here, as in other parts of this ring of lymphoid tissue, may be the result of the causes enumerated, but he thought that the condition could *most* frequently be considered as only a part of the existing disturbance of the digestive tract. Treatment directed to the relief of the gastro-intestinal catarrh will be followed by a subsidence of this condition. Direct irritants undoubtedly act in producing the hypertrophy. Alcohol acts in this way as well as through the general catarrhal condition that it causes; and it is to such hypertrophy that the cough of chronic alcoholics and the occasionally blood-streaked expectoration may be frequently referred.

Dr. J. D. Morgan said he had seen a number of such cases as spoken of, but did not think the complaint was annoying enough to warrant much treatment. He had used applications of tannic acid and a spray of ergot. When the gastro-intestinal system was at fault, that should receive attention. Many cases were associated with a gouty diathesis, and in these colchicum and blue mass were to be administered.

Dr. Johnson Eliot said of the causes of hypertrophy of the third tonsil he had nothing to add other than that he thought their list had been too much lengthened. Where associated with gastric or intestinal trouble, he had met these indications. He had seen a number of cases, and in the treatment he believed better results had followed the removal of the gland with the cold wire snare than with the cautery or caustic; under cocaine, this was not painful.

Dr. Dufour said he was much interested in the paper of Dr. Chamberlin, as it was a subject to which he had given some little attention. As to the etiology, he begged to differ from those who considered it due to gastro-intestinal disorders; he is of the opinion that it is due to a lymphatic diathesis; it may, however, be caused by diphtheria, the exanthemata, or the acute infectious diseases; this fact has been proven beyond doubt by post-mortem examinations. It is mostly a disease of adult life, though it may be found

in children if looked for. Children's throats are more tolerant than those of adults; what would be annoying to the latter, and cause him to seek advice, would not be complained of by the child. Has seen this hypertrophy in broad layers, in groups, some of which might be said to be pedunculated; also of a varicose condition. In some instances, the epiglottis was buried in the hypertrophies. The most prominent symptoms were empty swallowing, tickling in the throat, and a fullness of the same. The treatment is the galvano cautery or chromic acid; the parts are first cocaineized, and the cautery is applied, destroying two or three of the hypertrophies at one sitting.

Dr. Sohon said enlargement of the lingual tonsil rarely reaches such a degree that active surgical treatment is necessary, but even when local attention is needed, the condition is not usually recognized or is passed over—the old routine way of glancing into the pharynx and considering everything as satisfactory, if the faucial tonsils are not troublesome, being the extent of the usual examination. The glands which compose the tonsils can and do form large masses anywhere along the sides, back, and vault of the pharynx, and even the back of the septum. True hypertrophied masses exist as the *lingual tonsil*, sometimes, as stated in the paper, presenting a chronic condition analogous to a follicular tonsillitis (faucial), but usually the principal complaint is of recurrent mild attacks of hyperæmia and engorgement of the glandular tissue. Would agree with the reader of the paper, that many causes contribute to this trouble, chiefly derangements of the functions of the digestive tract and the reproductive organs; also general conditions of lymphatic or rheumatic dyscrasiæ. Treat according to the underlying constitutional fault or functional disturbances which increase the trouble here; locally with solutions of nitrate of silver, astringent lozenges, chromic acid, and the cautery.

Dr. Chamberlin, in closing, said he was glad to see that there was a difference of opinions in regard to these glands, as this would stimulate a closer study of them. This hypertrophy is not rare, having seen it frequently, and also where both husband and wife were affected. During the menstrual period, they become congested and quite painful, so much so that menstruation may, in many cases, be supposed to exist. Lacunar tonsillitis was the same as the disease under question. The hypertrophy had been reduced by boric acid and iodoform; considered to suggestion of the snare good, but it is apt to catch the underlying tissues.

AMERICAN ELECTRO-THERAPEUTIC ASSOCIATION.

Will hold its Fourth Annual Meeting at the Academy of Medicine, New York, September 25th, 26th and 27th. The following is the "preliminary programme:"

President's Address—Dr. W. J. Herdman, Ann Arbor, Mich., Professor of Diseases of the Mind and Nervous System, and Electro-Therapeutist in the University of Michigan.

Reports of Committees on Scientific Questions will be made, as follows:

Standard Coils—Dr. Wm. Jas. Morton, New York.

Standard Meters—Dr. Margaret A. Cleaves, New York.

Standard Electro-Static or Influence Machines—Dr. Wm. Jas. Morton, New York.

Constant Current Generators and Controllers—Dr. W. J. Herdman, Ann Arbor, Mich.

Standard Electrodes—Dr. A. Laphorn Smith, Montreal.

Stand and Electrode for Static Electricity, exhibit of same—Dr. Lucy Hall-Brown, Brooklyn, N. Y.

Electric Light as a Therapeutic and Diagnostic Agent—Dr. Margaret A. Cleaves, New York.

Papers on the *Constant Current* will be as follows:

Physics—Current Distribution—Mr. W. J. Jenks, M. I. E. E., New York.

Physiological Effects—Prof. H. E. Dolbear, President Tuft's College, Boston, Mass.

Therapeutic Uses—General—Dr. A. D. Rockwell, New York.

Galvanic Current in Catarrhal Affections of the Uterus—Dr. G. Betton Massey, Philadelphia.

Suites éloignées du traitement électrique conservateur Gynæcologie Grossesses Consecutives—Dr. Georges Apostoli, Paris.

Metallic Electrolysis—M. le Docteur Georges Gautier, Paris; Dr. Wm. Jas. Morton, New York; Dr. Margt. A. Cleaves, New York, and Dr. A. H. Goelet, New York.

Treatment of Urethral Stricture—report to date—Dr. Robt. Newman, New York.

Electro-Therapeutics of Diseases of the Eye—Dr. L. A. W. Alleman, Brooklyn, N. Y.

Notes on Goitre and Improvements in Apparatus for Treatment of Same—Dr. Chas. H. Dickson, Toronto.

Diseases of the Throat—Dr. D. S. Campbell, Detroit, Mich. Action of Electricity on the Sympathetic—Dr. A. D. Rockwell, New York.

Treatment of Neuritis by the Galvanic and Faradic Currents—Dr. Landon Carter Gray, New York.

Electric Sanitation—Prof. John W. Langley, Ph. D., Case School of Science, Cleveland, Ohio.

Physics of the Electric Light in Relation to Organized Matter—Prof. John O. Reed, Ph. M., Asst. Prof. of Physics, University of Michigan.

Hydro-Electric Methods, Physics and Appliances—Mr. Newman Lawrence, M. I. E. E., London.

Special Hydro-Electric Applications—Dr. Margt. A. Cleaves, New York.

The Hydro-Electric Therapeutics of the Constant Current—Dr. W. S. Hedley, Brighton, England.

Papers on "*Induction Currents*" will be as follows:

Interrupted Currents—*Physiological Effects*—Dr. W. J. Engelmann, St. Louis, Mo.

Therapeutic Uses—General—General Faradization—Dr. A. D. Rockwell, New York.

Gynæcological Uses—Drs. A. H. Goelet and H. E. Hayd, New York, and A. Laphorn Smith, Montreal.

Papers on "*Sinusoidal Current*" will be as follows:

Physics—Mr. A. E. Kennelly, F. R. A. S., Philadelphia.

Physiological Effects—Dr. W. J. Herdman, Ann Arbor, Mich.; Dr. J. H. Kellogg, Battle Creek, Mich.

Therapeutic Uses—Dr. Margaret A. Cleaves, New York; Dr. Wm. Jas. Morton, New York; Dr. J. H. Kellogg, Battle Creek, Mich.; Dr. Holford Walker, Toronto; Dr. A. H. Goelet, New York.

Le Courants Alternatifs; leur transformation; leur mesure et leurs applications electriques—M. le Docteurs Gautier et Larat; Paris.

Sinusoidal Method of Regulation—the E. M. F. and Resultant Current—Dr. Lucy Hall-Brown, Brooklyn, N. Y.

Papers on "*Static and Static Induced*" will be as follows:

Physics—Prof. Edwin Houston, Ph. D., Philadelphia.

Therapeutic Uses—General Therapeutic Uses—Dr. Wm. Jas. Morton, New York.

Treatment of Chorea—Dr. D. R. Brower, Chicago.

Static Induced—Dr. Margaret A. Cleaves, New York.

High Frequency Currents Derived from Static Machines, as per Method d'Arsonval—Dr. J. H. Kellogg, Battle Creek, Mich.

In Memoriam.—Dr. Wm. F. Hutchinson, Providence, R. I.; Dr. Robert Newman, New York; Dr. John Chambers, Indianapolis, Ind.; Dr. Plymon S. Hays, Chicago, Ill.; Dr. W. J. Herdman, Ann Arbor, Mich.

American Regular Medical Colleges.

Our readers must often have noticed the large number of regular medical colleges constantly advertised in this journal. Some, perhaps, have wondered how it is possible for so many colleges to hope to be benefitted by such advertisements—even in what may be regarded as a representative Southern medical journal. The mention of a few facts will surprise many who have not considered the subject, and will explain the business calculation of profit to the advertised colleges.

We believe it within limits to estimate that, from Texas and the States east of the Mississippi river and south of the Ohio and Potomac rivers, there go yearly from ten to twelve thousand medical students and practitioners and post-graduates who feel the need of “brushing up” or of review for medical examinations, etc., to the colleges of this country. A few go directly to European colleges. It is reasonable to estimate that this vast army of 10,000 or 12,000 students pay \$1,000,000 in round figures each year for tuition fees alone.

It is equally easy of demonstration that \$4,000,000 additional are annually expended by these same Southern medical students in travelling to and fro, in board, clothing, washing, text-books, and other necessities, and in incidental pleasures, etc. Is it surprising, then, that so large a number of regular colleges should come in competition for their respective shares of this aggregate of \$5,000,000 expended annually by Southern medical students and post-graduates?

Some of our foreign exchanges adopt the plan of annually devoting one issue to the interests of their College patrons. And as this plan commends itself, both in recognition of the esteemed patronage which this journal enjoys, as well as because this is the season when preceptors and students are determining on the institutions they will patronize, we will devote much of this number to notices of the regular medical colleges advertised in these pages.

Most of the regular medical colleges of the United States are members of the *Association of American Medical Colleges*. It is a requisite of membership in this Association that the individual colleges shall demand at least a suitable preliminary standard of education by the matriculates, and

also a three years' graded course of instruction in an institution recognized by the Association.

During the recent session of this Association, held in San Francisco June 7th, 1894, this subject of requirements for graduation was again freely discussed, and the conclusion arrived at was that a three years' course of six months each is entirely too short a period in which to make a doctor. Hence the following resolutions were adopted :

Resolved, That colleges, members of this Association, shall require of all matriculates an examination as follows :

1. An English composition in the handwriting of the applicant of not less than two hundred words ; said composition to include construction, punctuation, and spelling.

2. Arithmetic, fundamental rules, common and decimal fractions, and ratio and proportion.

3. Algebra—through quadratics.

4. Physics—elementary—Gage.

5. Latin—an amount equal to one year's study, as indicated in Harkness' Latin Reader.

(The above resolution does not apply to students exempt from the entrance examination, as per Sec. 2, Art. 111.)

Resolved, That the following classes of students be recognized as entitled to apply for advanced standing in colleges members of this body :

- a. Such graduates of recognized colleges and universities as have completed the prescribed courses in chemistry and biology therein.

- b. Graduates and matriculates of colleges of homœopathy.

- c. Graduates and matriculates of colleges of eclectic medicine.

- d. Graduates and matriculates of colleges of dentistry requiring two or more courses of lectures before conferring the degree of D. D. S.

- e. Graduates and matriculates of colleges of pharmacy.

- f. Graduates and matriculates of colleges of veterinary medicine.

It is provided, however, that the above class of students be required to comply with the provisions of the entrance examination, and to prove their fitness to advanced standing by an individual examination upon each branch below the class he or she may desire to enter.

Resolved, That students graduating in 1899 or subsequent classes be required to pursue the study of medicine four

years, and to have attended four annual courses of lectures of not less than six months' duration each.

Whatever may be the opinions of some of the profession with reference to ladies becoming doctors, it is idle longer to deny to them the rights of professional recognition. In competitive examinations, they are frequently taking the honors; and in morals, they are setting examples that it would be well for male students and graduates to follow. In our pages, only one woman's medical college is advertised; but that one deserves special mention, because of the excellent standing it has attained. That one is the

WOMAN'S MEDICAL COLLEGE OF BALTIMORE.

During the thirteen years of its existence, it has quietly pursued its way refusing to sacrifice principle for mere material success. Consequently, its classes have never been large. This is an advantage so far as the students are concerned, since they get more attention and more thorough instruction. The instruction is based upon thorough laboratory work. The first year is devoted entirely to this. In histology, for instance, the beginner is trained in the technique of histological work. An excellent course is given in pharmacy, and physiology is taught by experiment. For advanced students, adequate instruction is afforded in such neglected branches as hygiene and medical jurisprudence; and the clinics are supplemented by a three-months' laboratory course in clinical diagnosis—*i. e.*, the examination of urine, gastric juice, sputum, feces, and blood.

In addition to the 25 beds of the Hospital of the Good Samaritan (the special property of the trustees), the resources of the great Bayview Hospital and of the Presbyterian Eye and Ear Hospital are available for the students, under the professors of the College, who attend these institutions in an official capacity. There are two competent demonstrators of obstetrics, and the supply of obstetrical material is, beyond the power of the students to utilize. One-fourth of the time of didactic lectures is given to recitations.

A special feature of this institution is its flourishing Medical Society, which now has a "Bulletin" of its own.

The resources of the College have been much extended of late by the purchase of valuable property on McCulloh street. The College and Hospital are in close proximity. Since 1884, the College has had a three-year course of seven month's sessions, but the trustees have decided to lengthen these still further after the session of 1896-7. Not being brought into such eager competition as many of the male

schools, this school has had less temptations to lead it astray. It was one of the first, years ago, to adopt a preliminary educational requirement and a three-year graded course, and its whole history shows that its authorities have always striven to verify the sentiment of its motto—words taken from Lord Bacon's "Advancement of Learning"—*in dies fieri meliorem*.

THE UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.,

Was chartered scarcely more than a year ago as the "College of Physicians and Surgeons," and as the only three years' graded course institution in Virginia; but having distinct Departments of Medicine, Dentistry, and Pharmacy, a change of name to indicate this university feature was called for, and the above was selected. The three Departments—each with its own chairman—have a common organization under the Presidency of Dr. Hunter McGuire, who is also Professor of Clinical Surgery. The success of the first session was surprisingly great—121 matriculates from eight States, and this without decreasing the number of matriculates in either of the other two medical institutions in the State. The promises of enlarged classes next session are so numerous as to determine the building of increased accommodations for lecture-rooms, laboratories, etc., which, of course, will be properly equipped. The new buildings, now well under roof, will be ready by September 20th. The sessions are to be seven months each, instead of six. The plan of instruction is by lectures, recitations, clinics, laboratory work, etc. Clinical material is abundant.

MEDICAL DEPARTMENT OF THE UNIVERSITY OF VIRGINIA.

The plan of instruction in this time-honored institution in Charlottesville, Va., continues to be by lectures, recitations, laboratory work, etc. Its graded course extends over two sessions of nine months each. That its graduates are well grounded in the scientific principles of medicine is attested by the fact that of its 84 graduates who have appeared before the Medical Examining Board of Virginia since its organization January, 1885, only one has failed to pass on first examination—that Board requiring a standard of 75 per cent. The Medical Department is under charge of five professors and as many instructors. The number of matriculates last session was about 125—about the same as the year before.

MEDICAL COLLEGE OF VIRGINIA, RICHMOND.

This College enjoys the distinction of being the only one in the South whose sessions were not interrupted by the Confederate War. During its 57th annual session, it had 96 matriculates. The 58th session begins its three years' graded course—thus complying with the requirement of the Southern Medical College Association, which demands, as does the Association of American Medical Colleges, three full courses in three separate years before matriculates can be graduated. Special privilege, however, was accorded matriculates of this school last session, so that they may apply for graduation at the end of the next session; but, of course, this does not apply to those who may hereafter matriculate. Good business features are that all fees are payable in advance, and the Faculty announce that no reduction will be made from the charge of \$90 tuition fees per session. Its system of instruction is didactic and clinical.

THE UNIVERSITY OF MARYLAND

Adheres to the custom of speaking of its Medical and Dental Departments as the "Faculty of Physies." It was established nearly ninety years ago—thus being one of the oldest medical colleges in this country; and its record for good educational work is well known. Each session covers a term of more than six months. Chemical and histological laboratory work is obligatory. Systematic didactic lectures and examinations compel text-book studies; while clinical advantages are sufficient to permit the announcement with reference to one department, that "every student, before graduating, has personal experience in practical obstetrics."

THE BALTIMORE MEDICAL COLLEGE

Adheres to its progressive policy in completing its plant, in equipping its laboratories, etc. Its new building is five stories high, with lecture-hall on third floor. Its Faculty consists of eleven Professors, eight Lecturers, and fourteen Demonstrators. It adopts the three years' graded course. Examinations for first course students will be September 27th; for second course, September 28th. It has a non-compulsory Preliminary Session of one month beginning September 1st. Final examinations begin about April 1st, with Commencement on April 18th. Special attention throughout the course is given clinics and hospital work.

THE COLLEGE OF PHYSICIANS AND SURGEONS, BALTIMORE,

Attracts commendable attention for having grown from an humble origin to its present rank among the leading

institutions of its kind in America—and all of this without endowment or other extraneous aid, except steady, earnest, persistent work. This College is a member of the American Medical College Association, and conforms to all of its rulings. The course of instruction is didactic lectures and clinics—its clinical advantages being derived from the several hospitals, etc., some of which are under the exclusive control of the Faculty.

THE BALTIMORE UNIVERSITY SCHOOL OF MEDICINE

Adopts the three years' graded course. Candidates for graduation must give evidence of possessing a good moral character, "which includes unexceptionable conduct while at the College." A good point is that *a member of the Faculty* holds a quiz every Tuesday night—it being compulsory that every student be present. The lying-in hospital is supported solely by the University, and adjoins the General Hospital.

THE MEDICAL DEPARTMENT OF THE COLUMBIAN UNIVERSITY, WASHINGTON, D. C.,

Steps boldly to the front in requiring, not only a preliminary examination of those proposing to take their first course, so as to ascertain their fitness for beginning the study of medicine, but compels a four years' graded course of seven months each. The session of 1894-95 will open with an increased number of professors and excellent facilities for clinical instruction and for laboratory work in histology, bacteriology, chemistry, etc.

MEDICAL DEPARTMENT OF UNIVERSITY OF CITY OF NEW YORK.

For many years, this has been the popular New York Medical College for Southern students. It has always shown a properly cosmopolitan spirit. A number of its corps of sixty-four professors and instructors are authors of text books adopted all over the country. The "Special Announcement," made in the page advertisement, calls attention to the division of the three years' graded course, and notes the fact that besides instruction by lectures, in the first and second year, *recitations from text-books* will be required on many of the studies. The clinics are abundant as to material of all kinds—both in the College Dispensary and in Bellevue Hospital, which is just across the street. This institution has an income which well provides for improved equipments, etc., in the several laboratories, etc.

LONG ISLAND COLLEGE HOSPITAL

Is in Brooklyn, N. Y., and is one of the best institutions in the country. Its annual "reading and recitation term," commencing each spring, is a move in the right direction—especially in these days where clinical advantages are the chief advertisements of Colleges. While a full course of didactic instruction is given during the Fall Session, it is then that the clinical advantages become useful; and these advantages of the L. I. College Hospital are as great as elsewhere. The Hoagland Laboratory furnishes every facility for laboratory work and study. The graduates from this College Hospital are thorough, and always stand well before Boards of Examiners, etc. Its system is the usual graded course.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.

This College has lengthened its Winter session to over six and a half months. A preliminary session of about a month (for which no fees are charged students who matriculate in the Winter session), and the Spring session of about six weeks gives in reality an almost continuous lecture course of about nine months. The usual three years' graded course is required. The College has fine new buildings and abundant hospital and dispensary clinical advantages.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA

Long since established its world-wide fame. Three years' graded instruction is now required; but those entering after June 1st, 1895, must take four courses to graduate. The special strength of this College consists in the amount of clinical work done in its own hospital.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.

The great success of this College shows what work will do. All the essential facts usual in College announcements are tersely stated in the well-prepared advertisement. It is a three years' graded course. Pittsburg, Pa., furnishes enough material for all forms of clinics. The laboratories are well equipped, and the Faculty good, earnest teachers.

THE HOSPITAL COLLEGE OF MEDICINE, LOUISVILLE, KY.,

Got into its new and well-arranged building last January, when the regular six months' term began. As its name implies, one of its special claims is that clinics and laboratory work are well provided for. Its Professors are well selected, and their course of instruction is excellent.

THE KENTUCKY SCHOOL OF MEDICINE, LOUISVILLE,

Is a Spring and Summer Graduating School. At the re-

cent Annual Commencement, June 21st, 1894, it conferred the degree of Doctor of Medicine on 188 graduates. The success of this school is gratifying to the alumni and friends, and now that the Faculty have adopted the three years' graded course, and have completed a large modern hospital adjoining the College, the permanent success of the school is assured.

TENNESSEE MEDICAL COLLEGE, KNOXVILLE,

Was one of the first in the South to extend the regular course to six months, and to require attendance upon three courses of lectures as an essential for graduation; its great success is a source of special satisfaction to the friends of the school. Knoxville, with its suburbs, has about 50,000 inhabitants. Its location on the Tennessee river, midway between the Great Smoky and Cumberland Mountains, gives a mountain scenery not surpassed east of the Rockies. Its climate is free from the extremes of Northern rigors and Southern heat. The perfect drainage of the city makes the location healthy; hence Knoxville is regarded as a health-resort for invalids, etc. The location of the College in Knoxville enables it to draw clinical material from the many large factories and homes of employees of mills, etc.

CHATTANOOGA MEDICAL COLLEGE,

Advantageously located in East Tennessee, has dispensed with the usual "preliminary course," as it is believed that the claim of benefit to the student of such course is largely visionary. Regular quizzes in every department are wholly free to the student who pays up. The three years' graded course is obligatory. The success of this institution has far exceeded the expectations of the most ardent promoters of the enterprise. It is in full sympathy with the spirit of advancement, and is ambitious to make for itself an enviable reputation by the completeness of its methods of instruction.

THE MEDICAL DEPARTMENT OF TULANE UNIVERSITY OF LOUISIANA

Has handsome new buildings in New Orleans, and is elaborately equipped. It is the institution to which the widow of the late Dean, Dr. T. G. Richardson, made memorial gifts of large amounts. Among special claims of this institution is its close proximity and free access to the renowned Charity Hospital of New Orleans, with its 30,000 patients annually, from which its clinical material is mostly derived. It also has numerous, commodious and well-or-

ganized laboratories of chemistry, pharmacy, histology, bacteriology, and practical anatomy. The popularity of the Medical Department of this University is evidenced by an annual average, in recent years, of 400 or more students. It requires attendance of three full sessions prior to graduation.

SOUTHERN MEDICAL COLLEGE, ATLANTA, GA.

Within the past year, the equipment for teaching has been increased by a large expenditure of money in Germany and France, procuring the most modern models and all other accessions for medical teaching. A letter from the Dean expresses the belief that "few schools can surpass us now in the facilities for imparting medical instruction." It requires attendance upon three sessions of six months each in three separate years.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL, CHICAGO.

This is the changed name since 1891 of the Chicago Medical College. It is entitled to the credit of having been the pioneer in the advancement of medical education in this country. It was the first school in America to enforce a standard of preliminary education; to adopt longer annual courses (now eight months); and to require the graded curriculum. It requires four (full session) years' attendance, etc. It uses separate buildings for laboratory and for clinical work.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY

Is the Medical Department of the University of Cincinnati. Its laboratory and clinical facilities are equal to the best. Its Faculty include some of the best medical teachers of that section, and are active pushing men in the profession. We regret not having received the usual Announcement, from which to make a more definite notice as to length of sessions, etc.

In the line of *Colleges for Post-Graduates and Practitioners*, we are fortunate in being able to call attention to the advertisements of three of the best in this or any other country:

THE NEW ORLEANS POLYCLINIC

Will, no doubt, give corrected dates in future advertisements. Its Faculty, for the most part, is made up of the ablest of doctors and teachers available in that city, which continues to furnish eminent teachers as well as practitioners. Besides the clinical advantages furnished by the New Orleans Polyclinic Hospital and the several special

hospitals under the control of members of the Faculty, every advantage granted students of the Medical Department of Tulane University, in the great Charity Hospital, is likewise granted the New Orleans Polyclinic.

CHICAGO POLYCLINIC AND HOSPITAL.

Whenever we realize the rapid strides taken by the educational institutions of some of the Western States, etc., putting them in the lead of scientific advancement and demands, and think of the special eminence of the Chicago Polyclinic and Hospital, we are reminded of the good advice given years ago: "Young man, go West." There is certainly no equal that we know of west of the Mississippi river, and no superior east of it. Read its short advertisement, and the subscriber will not be misled.

THE NEW YORK POLYCLINIC.

We are gratified to learn, through one of our exchanges, that this "pioneer in post-graduate education is fully meeting the demands of the profession," and is more largely attended this summer than usual. It has a Faculty of 31 able Professors, 7 Adjunct Professors, 32 Lecturers, 31 Instructors, and 56 Clinical Assistants—157 teachers in all. A large number connected with "Polyclinic" are Southern men, with recognized abilities at home, and now distinguished as authors of books and leaders in many practical advances.

Iowa Objects to Patent and Proprietary Medicines.

A bill recently presented before the Iowa Legislature provides that every patent medicine offered for sale in that State shall have a printed statement on the wrapper giving the ingredients of the preparation. Penalty, not exceeding \$100 fine, or six months in the penitentiary.

Not Yet Too Late for Cholera, etc., this Year.

For particulars, see reports in your daily papers.

New Medical Colleges.

The Central Medical College, of St. Joseph, Mo., is an offshoot of the Northwestern.

The Birmingham Medical College, Ala., starts off in a month or so. It will take women on same terms as men.

New Instruments, etc.

Leonard's Trephine.

This new trephine was designed by Charles L. Leonard, M. D., of Philadelphia. In designing this trephine, Dr. Leonard wishes to accomplish three essential points: First, owing to the control the operator has by means of a long shank, he can guide the crown at pleasure, thus securing a straight or slanting cut. The left hand grasps the large end firmly and permanently—unlike the old style of Galt's trephine, where the relinquishment of the grasp becomes essential at each half turn of the instrument. Second, the design of the power-piece traversing the shank gives three complete turns to the crown; each time it is passed the full length of the shaft in an upward direction, six times the rapidity of the old-style instrument is gained. Third, the instrument can be taken apart and thoroughly and readily cleansed. In addition to its use as a trephine, it can be readily used with burrs and drills, and all these parts are adjustable to the same shaft. The whole instrument is constructed on scientific principles, and is manufactured and for sale by the E. A. Yarnall Co., 1020 Walnut street, Philadelphia, Pa.

The Gibbons' Ether Inhaler.



The illustration herein represents an ether inhaler designed by Dr. R. H. Gibbons, which is simple in its construction, very serviceable, readily cleansed, and not expensive. It consists of a nickel-plated spring wire comb, shaped to fit accurately over the nose and mouth; a towel is spread over the frame, and the outer or loose frame is designed to pass

down over the towel in order to keep it in position while the instrument is in use. This inhaler is also made by and for sale by E. A. Yarnall Co., 1020 Walnut street, Philadelphia, Pa.

Dios Chemical Co., St. Louis.—Since I tested the sample of Dioviurnia you sent me a year ago, I have prescribed it frequently, and find it of special value in endometritis and subinvolution.—ALFRED H. HIATT, M. D., Chicago, Ill.

*Analyses. Selections, etc.***Numerical Strength of the Different Schools of Medicine in the United States.**

The following estimate, prepared at considerable expense of time and money by John K. Scudder, M. D., Cincinnati, O., we find in the *Eclectic Medical Journal*. The explanations of the letters (A. B. C. etc.) at the head of the columns are given at the bottom of the columns.

STATES.	A. Total Number.	B. Polk's List.	C. Regular.	D. Hom.	E. Eclectic.	F. Physio- Med.	G. Unclas- sified
Alabama.....	2117	1900	1566	24	99	...	211
Arizona.....	108	98	74	4	10	...	10
Arkansas.....	2586	2328	1765	50	249	6	258
California.....	3300	2970	1795	368	452	25	330
Colorado.....	1165	1049	738	89	93	13	116
Connecticut.....	1267	1141	735	126	147	7	126
Delaware.....	292	263	195	30	9	...	29
District Columbia,	831	748	565	71	26	3	83
Florida.....	789	711	498	57	73	5	78
Georgia.....	2825	2543	1789	46	401	25	282
Idaho.....	176	159	101	7	24	...	17
Illinois.....	8002	7200	4245	975	988	192	800
Indiana.....	5006	4506	2293	293	1020	400	500
Indian Territory,	416	375	266	2	62	4	41
Iowa.....	4434	3991	2932	450	470	95	44
Kansas.....	3089	2781	1636	360	414	63	308
Kentucky.....	4063	3657	2883	125	218	25	406
Louisiana.....	1412	1271	1048	36	46	...	141
Maine.....	1222	1100	784	137	57	...	122
Maryland.....	2120	1918	1606	76	24	...	212
Massachusetts.....	4457	4012	2646	687	221	13	445
Michigan.....	4057	3552	1905	686	459	97	405
Minnesota.....	1584	1426	877	239	127	25	158
Mississippi.....	1682	1514	1268	18	60	...	168
Missouri.....	6178	5561	4000	381	538	25	617
Montana.....	299	270	157	19	20	45	29
Nebraska.....	1730	1557	877	202	264	41	173
Nevada.....	66	60	38	10	6	...	6
New Hampshire....	720	648	435	90	47	4	72
New Jersey.....	2030	1827	1243	301	80	...	203
New Mexico.....	147	133	400	10	9	...	14
New York.....	11171	10054	6725	1338	824	50	1117
North Carolina....	1799	1619	1401	11	24	4	179
North Dakota.....	272	245	187	22	9	...	27
Ohio.....	7579	6814	4030	678	1199	155	757
Oklahoma.....	267	241	171	6	38	...	26
Oregon.....	909	819	597	47	72	13	90
Pennsylvania.....	9310	8479	6405	684	384	75	931
Rhode Island.....	654	589	289	107	28	...	65
South Carolina....	1422	1280	1103	5	5	25	142
South Dakota.....	450	405	266	40	54	...	45
Tennessee.....	4379	3942	3193	68	225	19	437

Texas.....	5288	4756	3677	99	312	50	528
Utah.....	273	256	186	18	23	2	27
Vermont.....	696	527	282	121	45	10	69
Virginia.....	2806	2526	2191	28	27	...	280
Washington..	910	819	643	48	18	19	91
West Virginia.....	1061	955	717	20	99	13	106
Wisconsin.....	1966	1870	1139	330	195	10	196
Wyoming.....	75	68	46	9	6	...	9
Total.....	118453	106633	72028	9648	10292	1553	11524

A. Total estimated number of physicians of all schools, according to a recent list issued by the Gardiner Co. of New York

B. Total estimated number of Physicians of all schools, based on Polk's Directory, making allowance for duplicates and dead addresses.

C. Total estimated number of so-called Regular, or Allopathic Physicians

D. Estimated number of Homœopathic physicians. This estimate was arrived at by adding 10 per cent. to the list furnished us by Messrs. Baricke & Tafel, of Philadelphia.

E. Estimated number of Eclectic physicians, based on the systematically arranged list of Lloyd Brothers, Cincinnati.

F. Estimated number of Physio-Medical physicians, is furnished us by the editor of "Sanative Medicine," Westerville, O.

G. The remaining necessarily unclassified. Many of these are probably "duplicates," "dead addresses," and "patent medicine men." Estimate, 10 per cent. of total registry of all physicians

There are more Eclectics than Homœopaths in 30 States and Territories out of 50. The States in which we lead very materially are Arkansas, Georgia, Indiana, Indian Territory, Kentucky, Missouri, Ohio, Oklahoma, Tennessee, Texas, and W. Virginia.

The number of Homœopaths exceed that of the Eclectics in 19 States and Territories. Their chief strength lies in the old Eastern States, like Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.

The chief strength of the Physio-Medical school lies in Indiana, Illinois, and Ohio.

Phenacetine Therapeutics.

In a discussion on the treatment of tuberculosis before the Vienna Medical Club, March 7th, 1894, Dr. Julius Weiss expressed himself as decidedly against the use of hydriatic measures for controlling the fever, and also uttered a note of warning against the use of antifebrine, as collapse was easily induced by this drug. He usually prescribes phenacetine in doses of 0.25 to 0.50 grms. (about four to eight grains), and has been well satisfied with its effects. In a discussion on *pneumonia* before the Twin City Medical Association, (*Kansas City Med. Record*, June, 1894,) Dr. Schaefer objected to the use of acetanilid on account of its being a heart depressant, and recommended phenacetine to control the fever. Dr. Cross advises the use of phenacetine and carbonate of

ammonia, and did not resort to heart stimulants until they were indicated. Dr. McDonald suggested brandy, carbonate of ammonia, and phenacetine, together with hot turpentine stupes. Dr. I. B. Gilbert (*Med. Summary*, June, 1894,) sums up his experience with this remedy in *rheumatic affections* as follows: "Phenacetine relieves muscular spasms and muscular pains promptly, and is adapted to the treatment of either acute or chronic muscular rheumatism." In a paper presented to the Association of American Physicians, May 29th, 1894, on the treatment of certain symptoms of *croupous pneumonia, particularly in adults*, Dr. Beverly Robinson, of New York, stated that among modern antipyretics he regarded phenacetine as the best, for the reason that in addition to its antipyretic action it also induced sleep. In the treatment of *cholera*, Dr. F. M. Werner suggests the following formula: *R.*—Phenacetine, grs., xv; acid salicylic, grs., xiv; acid carbolic, ʒss; essence peppermint, min. x; distilled water, ʒij. *M. S.*—One teaspoonful to be taken in water until the symptoms abate.

Permanganate of Potassium Antidotes Morphine.

Dr. J. M. Simpson Martin, of Massey, Texas, in a paper published in the *Courier-Record of Medicine*, July 1894, quotes from the paper of Dr. Wm. Moore, of New York, as follows: "Following this, two students made experiments upon animals with the drug used hypodermically, the proportion being one and one-third grains of the antidote (permanganate of potassium) to each grain of poison (sulphate of morphia). The animals were in various stages of torpor from morphine poisoning, in some of which it had been given hypodermically and in some by the mouth; yet all recovered promptly in from two to ten minutes after the hypodermic use of the antidote."

Dr. Martin made some experiments of his own. He made a solution of the poison and the antidote in beaker glasses, but did not weigh the amounts of either. On mixing the solutions, the bright violet color of the permanganate was immediately changed to a light straw color, and a dark brown precipitate was thrown down. This was set aside, and after several days was thrown out, and the glass put away without washing. Some two weeks after, in preparing a glycerine injection for his infant of five months, he used the same glass. In ten minutes after the injection, the child dropped off to sleep. He soon saw something was seriously wrong. With difficulty he aroused him for only

a few minutes. The following condition was present—extreme lethargy, intense drowsiness, insensibility to external impressions, complete loss of consciousness, slow full pulse, labored breathing, pupils contracted, etc. After some half hour he thought of the fatal glass, and the truth flashed over me at once—he was morphine poisoned. Knowing that the morphine had been subjected to a solution of permanganate, he had but little faith in its antidotal effect, yet resolved to try it, and hastily injected a solution per rectum, which was not retained. He could not be induced to swallow, and was sinking fast. The heart became slower, the breathing labored and very slow. At this stage, he quickly injected into the right thigh ten minims of permanganate solution. The puncture caused him to draw up his legs. He immediately showed signs of returning life, and within three minutes was completely aroused. He was drowsy for an hour after this, but never so stupid that motion would not arouse him. When he could swallow he gave him weakened whisky and strong coffee which he drank eagerly, a thing he had never done before. After about four hours he seemed as well as ever. He does not know the amounts of morphine and permanganate used in making the test, but am sure from tests made since that the morphine was in excess, was precipitated and left in the glass. The single hypodermic of permanganate in this case was wonderful.

Other cases more wonderful are being reported, Dr. J. S. Buist, of Charleston, S. C., saw a young woman, aged 19, two hours after she had taken one and one-half ounces of laudanum. The patient presented all the symptoms of extreme opium poisoning. The usual remedies had failed. On arriving he immediately injected into the arm 10 minims of a 6 to a 5i solution of permanganate. In six minutes the effect was noticeable, pupils began to dilate, circulation improved. Ten minims more were injected into the other arm. The patient made a speedy recovery.

Dr. H. B. McKilveen, of Chariton Iowa, reports a case which he saw three hours after he had taken 15 to 18 grains of sulphate of morphine and was seemingly beyond all hope. Many remedies had been tried, patient was slowly failing. One grain of permanganate was given subcutaneously, and in five minutes he drew up his legs and kicked over a two hundred pound man sitting at his feet. In fifteen minutes he was walking with the assistance of two men. One more

injection of one-half grain of permanganate solution was given, patient made a good recovery.

Dr. Moore claims, through the *Medical Record*, that one grain of morphine is decomposed by exactly one grain of permanganate of potassium. This he claims should be the basis of the treatment no matter how much time has elapsed since the taking of the poison.

The *modus operandi* of hypodermic injection in cases of morphine poisoning, is explained by the fact, that the permanganate instantaneously selects morphine from among albuminous bodies.

Prevention of Tuberculosis.

Dr. George M. Kober, of Fort Bidwell, Cal., in a paper read before the Second Annual Sanitary Convention, held under the auspices of the California State Board of Health, April 16th, 1894, makes a strong plea for the prevention of the spread of tuberculosis in new territories, now being advertised as resorts for consumptives. The facts presented in his paper justify the following conclusions, which should be well read by every one interested in the subject:

1. Tuberculosis is an infectious disease caused by a microbe, transmissible to healthy individuals under certain favorable conditions.

2. Inherited and acquired predisposition plays an important rôle in the invasion and multiplication of the bacilli.

3. The germs may enter the system by the respiratory and alimentary passages, and by the skin and mucous membranes, if there be an abrasion.

4. Whilst the bacillus has been transmitted through the milk, flesh, and blood of animals and man, the most common and effective way of distributing the disease is by the dried and pulverized sputum of tuberculous patients. Heller calculates that seven thousand two hundred million of bacilli may be expectorated in a day by a single patient.

5. The habitations of consumptives, as well as their personal effects, unless immediate disinfection has been practiced, are infected houses and objects, and liable to convey the disease to subsequent occupants.

The indications for the prevention of this disease are—

1. Notice by householders and physicians to the health authorities as soon as the disease is recognized.

2. The sputum of consumptives should be received in spitcups containing a 5 per cent. solution of carbolic acid, and the contents rendered innocuous by boiling for twenty

minutes. The paper and wood boxes made for this purpose should be burned. All public and private buildings should be provided with spittoons. Patients who continue out of doors should use handkerchiefs to receive their expectoration, which, if old, should be burned; at all events, linen, bedding, or clothing thus soiled should not be allowed to dry, but must be thoroughly disinfected, boiled, or steamed, and laws should be enacted against spitting into places where the sputum is liable to infect others.

3. Disinfection of all houses in which tuberculosis has occurred should be made compulsory; also the disinfection of hotel rooms, sleeping car and steamer berths which have been occupied by consumptives.

4. All objects which have come in contact with consumptives should not be given away, sold, or used by others until disinfected by steam under pressure, boiling, fumigation, or a coating with lime or corrosive sublimate solution.

5. Isolation of tuberculous patients is indicated in hospitals, asylums, and prisons. In private life, the patient ought to occupy a separate room and bed, use separate eating and cooking utensils, and neither receive nor give kisses, and the family physician should encourage the treatment of such cases in special hospitals.

6. Government inspection of dairies and slaughter-houses and the extermination of bovine tuberculosis are urgently called for. In the absence of such laws, and as an additional precaution, cows' milk should be thoroughly boiled and meats well cooked.

7. A tuberculous mother should not nurse her infant, and great care must be taken in the selection of a wet nurse. Marriages with a tuberculous person should not only be discouraged, but absolutely prohibited by law.

8. Predisposed persons should take special precautions; this is particularly true of those born of tuberculous parents or belonging to consumptive families; those debilitated by privations or excesses, and those suffering or recovering from whooping-cough, measles, small-pox, diabetes, and catarrhal affections. Clinical experience teaches that it is quite possible to overcome this predisposition by improving the tone and general nutrition of the system. Apart from medication, careful and methodical gymnastics, attention to the skin, and other hygienic rules, will prove of special value. Let us insist on the purity of the air in our houses and towns, and guard against dark, damp, and unsanitary habitations.

9. The establishment of sanitary boarding-schools in salubrious localities for children predisposed to tuberculosis, in which special attention is paid to their physical culture, appears earnestly called for, and in choosing a subsequent vocation for them, it is important to avoid occupations involving sedentary habits and indoor work, especially in a dusty atmosphere.

10. Last, but not least, the public should be educated that this fatal malady is a communicable disease, how it may be acquired and prevented, and this duty devolves not only upon the medical profession, but also upon the press, State, school, and church.

Much mental distress may be engendered by the enforcement of the rules just formulated; but the fact that 15 per cent. of the community are victims of this fatal disease, would more than justify such enlightened legislation as even the prohibition of marriages with a tuberculous person. Men and women afflicted with a communicable disease are dangerous to society, and it is the duty of the State to take what precautions it can to prevent mischief. Legislators have a right to look to our medical societies and health departments for advice on matters affecting public health, and if a medical body recommends means for the prevention or spread of communicable diseases, they should be accepted in a practical sense and embodied in *effective* laws.

Whilst a conservative spirit should ever animate our profession, we should also possess the courage of our convictions: and yet, there are men eminent in our ranks, whilst not hesitating for a moment to urge the most heroic measures for the prevention of cholera, yellow fever, and smallpox, absolutely oppose the enforcement of efficient means for preventing the dissemination of consumption, universally admitted to be the most fatal of all communicable diseases. Whilst cholera, yellow fever, and smallpox strike terror into a community, because these diseases occur in epidemics and are rapidly fatal, we know that consumption demands more victims than all these diseases combined.

The question of marriage not only involves the prevention of tuberculosis, but other communicable diseases, and no one knows better than the members of the medical profession what an excess of pain and sorrow, what an ocean of tears and blood, might have been prevented if exemption from communicable diseases in candidates for marriage were as mandatory as the question of age and race for the procurement of a license.

Treatment of Myalgia.

Somebody (quoted by *Canada Lancet*, August, 1894, from *Coll. and Clin. Rec.*) knows a number of affections better clinically than pathologically, marked by peripheral soreness and painfulness, sometimes of the muscles or their fibrous sheaths, or the fibrous structure of joints, or the peripheral sensory nerves. The writer has found the following of service in a large number of such cases of myalgia:

R^y—Tinct. guaiac ammoniat.....

Ext. cimicifugæ fluid

Ext. erythroxyli fluid āā f. 5j

M. S.—Teaspoonful three times daily before meals.

When constipation co-exists, an equal proportion of fluid extract of cascara sagrada is added.

Guaiacol in Diabetes, Polyuria, etc.

According to *Courier of Medicine*, July, 1894 (quoted from *Medicine Moderne*), guaiacol has long been used internally for phthisis pulmonalis and chronic bronchitis, and locally as an analgesic. Now it is brought out that it acts well in *diabetes*. Dr. Climens, of Frankfort, administered daily eighteen to twenty drops in three doses, suspended in milk or cod liver oil, while the patient takes a nitrogenous or a mixed diet, or drinks beer. In about eight days, a notable diminution of sugar is found; in about four weeks, he may again be permitted to partake of saccharinaceous food, without manifestation of increase of sugar in the urine. The excellent results of guaiacol upon polyuria is still more pronounced. After a few days treatment, the daily quantity of urine will be diminished one-half, and the general state of the system will be improved. These medicaments were well supported.

To Deodorize Iodoform, Creosote and Guaiacol.

The odor of these upon the hands can be overcome by washing with linseed meal. Articles having an odor of iodoform may be washed in tar water to which oil of wintergreen has been added. The taste of pills of creosote may be disguised by means of a little powdered coffee. The odor of iodoform or guaiacol in rooms can be dissipated by burning coffee.—*Pacif Med. Jour.*, August, 1894; *Monatsh. f. prakt. Dermatol.*

Book Notices.

Illustrated Dictionary of Medicine, Biology and Allied Sciences, *Including the Pronunciation, Accentuation, Derivation, and Definition of the Terms used in Medicine, Anatomy, Surgery, Obstetrics, Therapeutics, etc., etc., and the Various Sciences Closely Related to Medicine, Bacteriology, Microscopy, Botany, Pharmacy, Veterinary Medicine, etc., etc.* By GEORGE M. GOULD, A. M., M. D., author of "The Student's Medical Dictionary"; "12,000 Medical Words Pronounced and Defined"; "The Meaning and the Method of Life"; Editor of *The Medical News*; President, 1893-94, American Academy of Medicine; one of the Ophthalmologists of the Philadelphia Hospital, etc. Philadelphia: P. Blakiston, Son & Co., 1894. Large 8vo. Pp. 1633. Full sheep or half Morocco, \$10, net; half Russia, with Thumb Index, \$12, net.

This is a new comprehensive Medical Dictionary that must necessarily take the place of other works of its class, because it is up to date in including words recently introduced by the advances in the several sciences related to medicine, and because it retains all the words retained in use which are found in other standard dictionaries. It gives definitions compactly, including terms used in biology. It gives the derivation, usual pronunciation, and the logical relation and practical bearings of words, which latter explain a number of peculiar features, such as the number of tables, etc. It adds illustrations when necessary to give clearness to the definitions. In doubtful instances it adopts the phonetic spelling, usually doing away with diphthongs, etc. The tables, original and selected, are exceedingly serviceable, as, for instance, those of the bacteria, covering about 30 pages, the types of bacilli showing morphologic characters and arrangement, etc. If there be a criticism as to plan of arrangement, it would be that sometimes a leading word is not in alphabetical place. Thus, "Lingulata" does not appear in alphabetical place between "Lingule" and "Lingulate," nor is any reference made to the word "Parasites" to show where it may be found. One meeting the word "Arthrobacterium" in a casual reference, would fail to find it if he sought it between the words "Arthrotolith" and the next word, "Arthrobranchia"; but he must remember to look for it under the "Synonymatic Table of Bacteria," etc., etc. It would certainly be better to introduce the word in its proper alphabetical arrangement in a dictionary, and there give proper reference to the place

where its definition may be found. It is easy to see how many such words, that are really defined, will be lost sight of by the hasty examination for such words in their presumed alphabetical arrangement. But we fully appreciate how nearly impossible it is to get the arrangement of the first edition of any such great work as this as perfect as the author himself may desire; and there is so much to commend this Dictionary to the favor alike of the medical and scientific man, that it may appear hypercritical to call attention to so relatively small a fault. The publisher's part has been done handsomely, both as to the selection of distinctive type and as to typography. The paper is specially prepared for this great work, and the binding is durable, and so done that the pages open easily and remain open without weights, etc.

Practical Lectures in Dermatology *Comprising a Course of Fifteen Lectures Delivered at the University of Vermont Medical Department during the Session of 1892 and 1893.* By CONDUCT W. CUTLER, M. S., M. D. Professor of Dermatology, University of Vermont; Physician in chief and Dermatologist to the New York Dispensary etc. G. P. Putnam's Sons. New York and London. The Knickerbocker Press. 1894. 8vo. Pp. 233. Cloth. Price \$2. (For sale by West, Johnston & Co., Richmond.)

These lectures are mostly on every day subjects as met with by the practitioner, regarding which the college student should be informed. After considering the anatomy and lesions of the skin, the questions of classification, diagnosis and general therapeutics, special diseases are taken up in alphabetical order. A good index is appended. The special features of these lectures are the diagnosis and treatment. Formulas having the merit of approval of experience are given on almost every page that touches upon matters of treatment. The book is issued in the usual handsome style of the courteous and tasty publishers. It is a work worthy of a place on the busy Doctor's table where it should be often consulted.

Transactions of the New York State Medical Association. 1893. Vol. X. *Edited for the Association by* E. D. FERGUSSON, M. D., Secretary and Treasurer. Published by the Association, 64 Madison St., New York. 8vo. Pp. 585. Cloth.

When Society *Transactions* are so handsomely issued, and are so appreciated by the members as to call for a decennial

Index of the ten volumes issued, mention should be made of it. The papers of this Association are always excellent, and the present *Transactions* do not furnish an exception. We only regret that lack of space forbids a notice of some of those now published.

Transactions of the Southern Surgical and Gynæcological Association. VOLUME VI. *Sixth Session.* Held at New Orleans, La., November 14, 15 and 16, 1893. Published by the Association. 1894. 8vo. Pp. 392. Cloth.

This volume of excellent papers, by eminent authorities, is handsomely issued in style uniform with the preceding volumes. Dr. W. E. B. Davis, of Birmingham, Ala., continues as Secretary. Dr. Cornelius Kollock, of Cheraw, S. C., succeeds Dr. Bedford Brown, of Alexandria, Va., as President. The next session is to be held in Charleston, S. C., November, 1894.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. *Authors and Subjects.* VOLUME XV. *Universidad-Vzoroff.* Washington: Government Printing Office. 1894. Royal 8vo. Pp. 842.

This work is nearing completion, as the next Volume will begin with the letter W, and the owner of the completed *Index* will have an invaluable subject-reference book. The Volume received includes 6,152 author titles, representing 3,312 volumes and 4,235 pamphlets, beside 8,596 subject titles of separate books and pamphlets and 35,667 titles of articles in periodicals.

Antiseptic Therapeutics By DR. E. L. TROUSSART, Paris, France. Two Volumes *Translated by* E. P. HURD, M. D. 1893 George S. Davis, Detroit, Mich. Paper. Pp. 316. (50 cents for the two volumes)

These volumes are two numbers of the "Physician's Leisure Library" that are worth, to the practitioner, many times the price of 50 cents. *Part I* (which is Vol. I—129 pages) studies "Antiseptics from a Chemical, Pharmaceutical and Physiological Point of View," considering (1) those borrowed from mineral or inorganic chemistry, and (2) those borrowed from organic chemistry. *Part II* considers the "Antiseptic treatment of diseases which belong to internal pathology"—naming many prescriptions in detail under the special diseases considered. *Part III* is devoted to "Antiseptic hygiene of patients and their environments."

Macribiotic; or, Our Diseases and Our Remedies. By JULIUS HENSEL, Physiological Chemist. Translated by Prof. LOUIS H. TAFEL of Urbana University, Ohio. *From the Second Revised German Edition.* Published by Boericke & Tafel, Philadelphia. 8vo. Pp. 201. Cloth. By mail, \$1.60 net.

We are not sufficiently acquainted with the standing of the author, or with the popularity of the book itself among "people of culture," to know whether this work needs serious consideration in a book notice. He writes to "put an end to the * * * really childish doctrine of bacilli and bacteria as causes of disease;" and yet (page 183), in commending a preparation of cream of tartar, he says: "We thus secure an antiseptic beverage * * * useful in fever and in dropsy." On page 85, he says there is no need to hunt for a bacillus as the cause of cholera when we look at the position of certain cities and countries, etc. Such doctrines belong to the days of ignorance as to methods of study, and their adoption now would be many steps backwards. While specific germs of all specific diseases have not been discovered during the few years that bacteriology has been developing into a science, still so much is known as to the specific germs of many acute and chronic infectious diseases as to make it absurd to deny now the relation of cause and effect of the discovered specific bacteria and bacilli. There is nothing in this view to destroy the facts about ptomaines, etc. This book, in attempting to make absurdities of facts on many pages, states doctrines of the author's conception as facts which are themselves absurdities.

Primer of Psychology and Mental Disease. By C. B. BURR, M. D., Medical Superintendent of the Eastern Michigan Asylum, etc. 1894. George S. Davis, Detroit, Mich. 12mo. Pp 104. Price. \$1.

This Primer is neatly issued, uniform in size with the "Physician's Leisure Library," but is bound in canvas, and is printed on better paper. While elementary in its teaching, this book makes so clear many facts that are not well understood by advanced students, that it will be found useful in most libraries. With reference to mental diseases, the author remarks that punishment should never be employed in the management of the insane—a teaching which is open to criticism; but the definitions of the mental diseases, which are given, are fortunately well chosen because of their simplicity and clearness.

Where to Send Patients Abroad for Mineral and Other Water Cures and Climatic Treatment. By DR. THOMAS LINN. 1894. Geo. S. Davis, Detroit, Mich. Paper. Pp. 76. Price, 25 cents.

This is a reprint of the little English book favorably noticed in our July number, page 375, and is adopted as one of the "Physician's Leisure Library." To Americans, it has the advantage of being cheaper. Patients going abroad for health should get a copy, and all doctors should have the practical summary of facts in order that they may answer the questions of those who propose going to Europe for health.

Medical and Surgical Reports of the Boston City Hospital. *Fifth Series.* Edited by Drs. DAVID W. CHEEVER, GEORGE B. SHATTUCK, and ABNER POST. Boston: Published by the Trustees. 1894. Paper. 8vo. Pp. 174.

We do not know whether or not these "Reports" are for sale; possibly they are distributed by the Trustees. But whoever gets a copy, obtains a book of interest and value. All the surgical reports are interesting and suggestive of what may be done by others. In medicine, two cases of second attack of typhoid fever are reported. But the "Contributions from the Pathological Department, under the direction of Dr. Wm. T. Councilman," are of special value, giving original investigations on the bacteriology of diphtheria, gonorrhœal myocarditis, multiple rupture of internal organs, observations on pneumonia, syphilis of the heart and the kidney in puerperal eclampsia. The paper by John Lovett Morse, A. M., M. D., giving the results of "a bacteriological study of 400 cases of inflammation of the throat, occurring in diphtheria and scarlet fever, with especial reference to pathogenesis," is undoubtedly worth as much as many systematic treatises on diphtheria and scarlet fever in explanation of the role of the bacteria in these and like diseases.

Stories of a Country Doctor. By WILLIS P. KING, M. D., First Vice President of American Medical Association, etc. *With Illustrations by T. A. Fitzgerald.* New York: Bailey & Fairchild. 1894. Paper. Pp. 394. Price, 50 cents.

This cheap paper-back edition of the corrected original 1889 publication is intended to supply a want which is felt by those of our profession who cannot spare more than a few dimes for popular reading. These "Stories" have been

read by so many doctors and their families, and quoted from by so many writers and speakers, that it needs no word of review to tell the story of its great popularity. We need only say that this "50 cents" edition is neatly issued, and can be procured through booksellers anywhere.

Treatment of Typhoid Fever. By D. D. STEWART, M. D., Lecturer on Clinical Medicine in Jefferson Medical College, etc. 1893. George S. Davis, Detroit, Mich. Demi Svo. Pp. 104. Paper. Price, 25 cents.

The theory of treatment adopted by the Author is based on the pathogenic germ origin of typhoid fever. The subject is well and practically considered from the standpoint of prophylaxis, general management of a case, specific and antiseptic therapeutics, and treatment of special symptoms and complications. The monograph is one of the Physicians' Leisure Library Series, and is very thorough in the statement of facts.

One Hundred Years of Business Life.

Messrs. W. H. Schieffelin & Co., of New York, in a handsomely issued pamphlet, states the year 1894 completes a century of existence for their house. Six changes in the composition and name of the firm occur. The pamphlet has much of commercial historical interest, every page of which is written with a pen accustomed by education to such tasks. The illustrations, steel plate engravings, etc., are also finely executed.

Pennsylvania State Board of Medical Examiners.

The Medical Society of the State of Pennsylvania is represented by Drs. H. G. McCormick, President, Williamsport; W. S. Foster, Secretary, No. 133 Wylie avenue, Pittsburg; A. H. Hulshizer, Philadelphia; W. J. K. Kline, Greensburg; Henry Bates, Jr., Philadelphia; J. E. Silliman, Erie; S. W. Latta, Philadelphia.

The Louisville Medical Monthly

Is a new exchange, 40 octavo pages, \$1.00, in advance, a year, edited by Drs. Jas. B. Steedman and Geo. M. Warner. It is nicely issued, ably edited, and we hope it success.

Editorial.

Department of Eye, Ear, Throat and Nose.

We announce with pleasure the inauguration of a Special Department of this journal to be devoted to diseases, etc., of the organs named in the caption. It is to be under the sole charge of John Dunn, M. A., M. D., Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va. Dr. Dunn is too well known to our readers as a thorough student, an able specialist, and as one of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary to call for a formal introduction to the journalistic world. What appears in this number under the special Department edited by him serves to indicate the practical character of his future editorial work. We are sure subscribers, etc., will congratulate us in having the editorial services of one so eminently authoritative in the special field indicated. It may be well to exonerate him in advance from any responsibilities or reflections concerning articles from general practitioners, etc., on subjects relating to the eye, ear, throat or nose, that may, from time to time, appear in other departments of this journal than the one distinctly stated in the caption as conducted by him.

Medical Society of Virginia.

In a few days, the Preliminary Announcement of the Twenty-fifth Annual Session, to be held in Richmond, beginning Tuesday, October 23rd, 1894, will be issued. The prospects of a very large attendance of both members and visitors are very encouraging. The ripe subject of the day—*Appendicitis*—is the one for general discussion, with an able leader, Dr. Wm. L. Robinson, of Danville, Va. The number of contestants for the two Prizes—the one of \$100, offered by Dr. Hunter McGuire, for the worthy Essay on "*Medical and Surgical Aspects of Appendicitis*," and the other a conjoint Prize of \$200, offered by Drs. Joseph Price, of Philadelphia, and Herbert M. Nash, of Norfolk, Va., for the worthy Essay on the "*History of Surgery and of Surgeons in Virginia*"—is presumed to be sufficiently numerous to give interest to the contests. They should remember that each Essay for either Prize should be in the hands of the Recording Secretary Dr. Landon B. Edwards, Richmond, Va., on or before October 5th, 1894, so that the examining com-

mittees may be ready with their report when the Society meets. The President of the Society, Dr. Wm. P. McGuire, of Winchester, Va., has done good service during the year; and now that the "busy season for Society work" is at hand, it is to be hoped that each member will exercise his influence in securing suitable members, and in adding to the interest of the session by preparing papers and getting themselves ready for creditable participation in discussions of the papers, etc., that may be presented.

The local profession has held its preliminary meeting, and the Chairman of the Committee of Arrangements, Dr. J. S. Wellford, has appointed the several sub-committees, who will, we hope, be ready for early final reports as to their several duties.

This meeting of the Medical Society of Virginia will be of special importance to the profession of the State, as the twelve members of the Medical Examining Board of Virginia, for the term of four years, beginning November 1st, 1894, will have to be nominated for the Governor's commissions. It will be remembered that, under the new law, after the date named, the present Board of Medical Examiners ceases to exist, and one Examiner will have charge of the special branch to which he may be assigned. The most efficient, and those who will attend to their duties, must be selected.

Dr. Hunter McGuire

Will leave New York August 4th on a trip of some five or six weeks to Europe. Besides some friends, he will be accompanied by two of his daughters. During his absence from Richmond, his private hospital, St. Luke's Home, will be closed for repairs and renovation, and will be opened for patients about September 15th.

The St. Louis Clinique

Has passed into the hands of Dr. Emory Lanphear, who will conduct it in the interests of the College of Physicians and Surgeons of St. Louis, and of the profession of the West.

Typographical Correction.

On page 361, July number, sixth line from bottom of Dr. Bolling's report of a case of "unusual growth of an impregnated ovum," the type should read "weighing about six *grammes*," instead of grains.

Forensic Medicine in America.

Notwithstanding our national characteristic of being to the front in most things, we are far behind our European contemporaries in the matter of medical jurisprudence, or more correctly speaking, forensic medicine, which is *applied medicine* in the highest sense of the term. There is, in fact, no modern discovery in anatomy, physiology, or medicine that may not be applied, sooner or later, to the purposes of the law. Observation of a great number of medical and juridical facts has, moreover, brought about a change in punitive legislation; has developed the science of criminology, and thereby exerted almost subversive influence on many subjects in this branch of medicine. By means of recent advances in physics, the new creations of chemistry, and the perfected instruments of scientific precision, the man of skill now brings to light parts of the body heretofore considered impalpable or invisible; he penetrates into the mystery of component parts of the various organs, and reveals some of the most secret vital laws.

These discoveries have become so extensive of late, and precedents so numerous, that the works written a few years ago are now so antiquated or obsolescent as to be of but little practical value, and consequently necessitate re-organization and recasting of the whole science of forensic medicine. Most of these works have besides the disadvantage of having been written by one man. With a view to improve this branch of medicine, Dr. R. A. Witthaus, of New York, and Mr. Tracy Becker, of the New York bar, have lately edited two volumes of a work in which the respective chapters are the product of different collaborators, and in which the old knowledge is blended with the more brilliant modern facts in such a manner as to open the way between law and physic, and thereby help the assimilation of all questions, whether scientific or legal, in which the combined efforts of a physician and an attorney are required. But few of the common-hackneyed cases of the books are mentioned, and the subject is brought up to the date and standard of recent European works. Italians, by the way, are now in the foremost rank of contemporaneous writers on such matters, and although their system of judicature differs from our own, this fact does not lessen the value of a medico-forensic literature, which abounds in the three grand requirements of good sense, knowledge and honesty.

The object of these remarks is, however, not to write a

book notice, but rather to call attention to the excellent chapter of the principal contributor, Dr. Irving C. Rosse, of Washington. Besides being an alienist and neurologist, Dr. Rosse is a member of the "International Congress of Criminal Anthropology," and his wide experience with cases, both European and American, in which medico-legal questions were involved, numbers well up in the thousands. Such an experience appears, therefore, to have resulted in the peculiar fitness that has produced the chapters on "Personal Identity;" "Death by Submersion or Drowning;" "Impotence and Sterility," and "Sexual Crimes." The presentation of these subjects shows diligent research, and the language is clear and explicit. Several cases of Virginian origin are quoted as precedents. Persons interested in medico-legal matters should not fail to consult these volumes for the latest and best information on the subjects treated.

Dr. D. Mayer, of Charleston, W. Va.,

Was elected President of the Medical Society of West Virginia during its session at Berkeley Springs July 10-12. He was for a number of years the able Secretary of the body, and well deserves the honor of being its President. He graduated in 1859, was Assistant Surgeon U. S. Army during the War, after which he located in Brownsville, W. Va., to practice medicine. In 1872, he moved to Charleston, where he has lived ever since. Among other positions, he has been Health Officer of his city for two years. We congratulate him in his new office, as we know the Society will have just cause to feel congratulated before his official year is over.

Differential Diagnosis of Common Diseases of the Eyes.

This chart, about 12 x 18 inches, designed by Dr. W. F. Conners, of Oil City, Pa., for the use of general physicians, is intended to give only general indications for recognizing and treating common eye diseases; to help the family doctor to make a diagnosis without instruments or special knowledge. Price, 50 cents. This chart should have a place in all general practitioners' offices.

The New York Journal of Gynæcology and Obstetrics

Announces that, on and after the publication of the September number, it will change its name to the *American Gynæcological and Obstetrical Journal*.

The American Medical Publishers' Association

Will hold its Second Annual Meeting at Hot Springs, Va., beginning Tuesday morning, August 13th, as stated in our July number. If we could impress upon the Business Managers of our worthy exchanges the special and great advantages which the journals which are members have found to come out of it during only one year of existence of the Association, we are sure that they would join, and take active part in promoting the more thorough organization. Speaking from what may be said to be a personal standpoint, we are sure that the *Virginia Medical Monthly* has been saved many times more than the annual cost of membership. It is true that the strength of the organization would be increased in influence were all reputable medical journals and publishers members of it; but without such unanimity of membership, the peculiarity is that, even with a small membership, those journals that are members can do better in the Association than if they were not in it. Many important matters will be brought up for discussion and action at the meeting at Hot Springs, Va., this month; and as special rates have been accorded the members in attendance, it is hoped that all who can will be present. If there are any medical publishers who have not joined who wish to do so, and yet cannot attend the session, if they will forward their applications for membership, with \$5 annual dues, so as to reach Hot Springs, Va., by Monday, August 13th, 1894, their applications can then be acted on. The officers of the Association are now Dr. Landon B. Edwards, Richmond, Va., *President*; Dr. J. C. Culbertson, Cincinnati, Ohio, *Vice President*; Mr. Charles Wood Fassett, St. Joseph, Mo., *Secretary*; Mr. J. Macdonald, Jr., 14 Platt St., New York, N. Y., *Treasurer*. New officers are to be elected during the approaching session.

It should not be forgotten, as an inducement for those to attend the session who have been contemplating doing so, that Hot Springs, Va., is the rival of the famous Hot Springs of Arkansas. The Company of large capitalists has only in the last two or three years realized the possibilities of development of these Springs, and now have built houses, hotels, etc., which give comfort and conveniences. The depot on the Chesapeake and Ohio Railway, where transfers to Hot Springs are made, is Covington. This Railway runs through the most lovely and grandly picturesque sections of Virginia, West Virginia, and Kentucky; so that it is worth the visit simply to pass over this line and enjoy the

magnificent scenery. The vestibuled trains of this railway are in every way as perfect as cars are made, with dining-rooms, gas-lights, etc., and has, above all, proverbially polite and obliging officials and attendants.

Dr. George Byrd Harrison

Was elected President of the Medical Association of the District of Columbia during its Annual Meeting last April. This is a just tribute to a worthy son of Virginia, which want of space has prevented our noticing sooner. Dr. Harrison was born at Ampthill, Cumberland county, Va., August 30th, 1844. He was educated at William and Mary, and Washington Colleges. On January 22nd, 1864, he enlisted in the First Company of Richmond Howitzers, Cabell's Battalion, First Corps A. N. Va., and served in the battles of Morton's Ford, The Wilderness, Spottsylvania, Cold Harbor, before Petersburg, and at Appomattox (on the evening before the surrender). Hostilities being at an end, Dr. Harrison turned his attention to agriculture until 1878. Graduating from the Medical Department of the University of Virginia in July, 1879, he continued his studies at the Medical Departments of the College of Physicians and Surgeons, New York, and of the University of New York. In the spring of 1880, he entered on the practice of medicine in the city of Washington, where he soon attained a high place among his medical confreres. For a number of years he has been Professor of Diseases of Children in the Medical Department of Columbian University; is Senior Physician of Washington City Orphan Asylum, and of Epiphany Church Home; one of the Attending Physicians of the Central Dispensary and Emergency Hospital, and of Garfield Memorial Hospital; was one of the founders of the Washington Obstetrical and Gynæcological Society, and has been for many years its Treasurer; one of the founders of the Medical and Surgical Society of the District of Columbia, and of the Eastern Dispensary; is a member of the Medical Society of Virginia; of the American Medical Association; the Medical Society of the District of Columbia, and of various clubs. He has twice been elected Vice-President of the Medical Association (D. C.), having been for some time one of its counsellors. He is author of many papers read at Society meetings, which have been published in various medical journals. We extend Dr. Harrison our heartiest congratulations, and predict another year of prosperity for the Association of which he is chief executive.

The Martha Battey Hospital of Rome, Ga.

This institution, incorporated under the laws of Georgia, and managed by a Board of Trustees, is the generous gift of Dr. Robert Battey, in grateful recognition of the valuable aid his wife has rendered him in his surgical work at Rome. It is not designed to pauperize the people, on the one hand, nor to beg contributions from the charitable; but to offer comfortable shelter and necessary food and nursing at the lowest cost to patients and their friends, thus preserving their self-respect. The main building has neat and comfortable rooms for males and females; and like accommodations are provided in a separate building *for colored patients also*. Dr. Henry H. Battey is Surgeon-in-Charge, and Robert Battey, M. D., LL. D., is Consulting Surgeon. Ex-officio members of the staff are the City Physician of Rome, the County Physician of Floyd county, the Surgeon U. S. Marine Hospital, and the Surgeons of the several railroads entering Rome. Patients can select their own medical attendants.

Dr. Wm. R. Jones,

Adjunct Professor of Chemistry, Toxicology and Medical Jurisprudence, and Demonstrator of Chemistry in the Faculty of Medicine of the University College of Medicine, Richmond, Va., has been elected Professor of General and Analytical Chemistry in the Faculty of Pharmacy in the University College, Professor T. Wilber Chelf having resigned.

Tri-State Medical Society of Alabama, Georgia and Tennessee.

The committee has secured the ball-room of the Kimball House, Atlanta, for the next meeting of the Tri-State Medical Society, October 9th, 10th and 11th. The room has fine acoustic properties. It is shut off from all noises from the street, and is admirably adapted in every respect to the purpose. Dr. Frank Trester Smith, Chattanooga, Tenn., Secretary, etc.

Orificial Surgery.

The Eighth Annual Course of lectures and clinics for instruction in orificial surgery by E. H. Pratt, M. D., LL. D., Chicago, will commence Monday morning, September 3rd, 1894, at 9 o'clock. Seats reserved in order of application. For further particulars, address Francis D. Holbrook, M. D., 56 Central Music Hall, Chicago.

Dr. Ed. A. Craighill

Has recently been worthily complimented by the profession of his place by being elected an Honorary Member of the Lynchburg Academy of Medicine. He was the first Secretary after the war of the Lynchburg Medical Society. Although he afterwards devoted his attention specially to the drug business, and is now President of the Piedmont Drug Mill Co., he has not lost interest in professional matters.

Richmond Journal of Practice.

This is the new name of "*Practice*," which has for many years been a most excellent medical journal of this city. Dressed in its new suit, its July issue has an aspect, which in itself makes it more attractive than ever before. The collaborators are all well known to the profession; and having, as it has, such an able and energetic editor and proprietor as Dr. John F. Winn to steer its course, we feel assured that the future of the *Journal* can be no less than a continued success. The price remains as it has always been—\$1 a year.

The Refractionist.

This is a journal of practical ophthalmology, intended to be an exponent of the refraction world, published monthly. Editor, Francis F. Whittier, A. M., M. D., Professor Clinical Ophthalmology, College of Physicians and Surgeons; Ophthalmic Surgeon St. Elizabeth Hospital; formerly on Resident Staff Manhattan Eye and Ear Hospital, etc., 74 Boylston street, Boston. With associate editors. Subscription price, \$2 yearly.

Obituary Record.

Dr. James L. Drewry

Died at his home in Drewrysville, Southampton county, Va., July 1st, 1894, age 30 years, after an illness of several weeks. He graduated from the Medical College of Virginia 1883, joined the Medical Society of Virginia 1889, and had a very extensive practice. He was popular both as a citizen and practitioner.

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Original Communications.

ART. I.—Some Remarks on Epilepsy; and the Care of Epileptics on the Colony Plan.

By WILLIAM F. DREWRY, M. D., of Petersburg, Va.,

FIRST ASSISTANT PHYSICIAN CENTRAL STATE HOSPITAL; ASSOCIATE MEMBER AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, ETC., ETC.

HISTORY.

Epilepsy is a very old "disease." It was known, described under different names, and "treated" in an age when medicine was inseparable from sorcery and witchcraft. Ancient chronicles inform us that it was regarded with terror or as a mystery; and, like insanity, was thought to have some connection with evil spirits. We read in the Scriptures how a troubled father prayed to the Lord to have mercy on his son, "for oft-times he falleth into the fire, and oft into the water." Galen, Celsus, Avicennes, and other authors of the earliest medical works, left records of it. Father Hippocrates, 2,400 years ago, designated it "the sacred malady." Plato and Aretæus believed the affliction sprang from a love for gold. Some of the older French

writers thought it bore some relation to the coming of Saint John. In ye olden times, "the clergy, the laity, and the most ignorant of the common people shared the universal privilege of inventing new theories and therapeutic measures; and yet not one opinion has survived, and our building of knowledge of epilepsy contains no stones save those gathered in the last century." [Hare.]

The *first rational treatment* of epilepsy seems to have been introduced in the first quarter of the sixteenth century. About that date, Hector Boethius, Jean Taxil, Plateus and others mention "castration both as a cure for fits and as a prevention of hereditary transmission." Epileptic females were confined, and, if any of them happened to give birth to a child, both it and the mother were put to death.

It was the concurrent medical opinion of that day that the malady was caused by retained semen becoming corrupt, thereby acting as a reflex irritant. Upon this hypothesis, venery was frequently prescribed for epilepsy which began at the age of puberty. Excessive coition, however, was recognized as a cause of convulsions in many instances. Romberg and Esquirol refer to cases of males who were subject to epileptic convulsions either during or immediately after coitus. The great Napoleon Bonaparte was said to have had attacks at such times. The superstition that the moon's phases have a causative influence over the disease exists amongst some of the more ignorant classes even to this day.

In the old annals of medicine, we read some strange and interesting stories of the treatment of epilepsy. A remedy consisting of various roots and the skull of a man who had met a violent death, was considered a specific. Snake heads in rum were thought to possess great efficacy. The charred remains of magpies served to make an anti-epileptic powder of rare therapeutic virtue. All kinds of filthy decoctions were used in an effort to "stay the mysterious spell." Other absurdities, as to cause, and in the way of efforts to cure, before medicine as a science took shape, might be mentioned.

Epilepsy seems always to have afflicted mankind. It is an universal disease. In every land, in every climate, among all races and nations, and in every condition of man, it is found. It respects neither age nor sex. The awful malady has been a sore affliction to some of the most renowned geniuses that ever impressed their influence upon the world's history. Petrarch, Mohomet, Molière, Handel, Dostojewsky, Cæsar, and Napoleon were all subject to the "falling sickness." The disease is frequently observed in the lower animals. It is not uncommon to see dogs affected with typical epileptic attacks. Féré has recently reported a case in a canary bird, in which the convulsions were kept in abeyance by bromide of potash.

PATHOLOGY AND ETIOLOGY.

While epilepsy has been recognized and studied for centuries, nothing of real value was acquired until within the last two or three decades. Fritsch and Hitzig, by their experimental investigations, in 1869 and 1870, and the establishment of the modern doctrine of cerebral localization, gave a new impetus to the study of the brain and general nervous system. Careful research has been resorted to by some of the most eminent medical men of the world, such as Nothnagel, Meynert, Ferrier, Horsley, Schäfer, Charcot, Brown-Sequard, Bevan Lewis, Bartholow, Starr, Dana, Seguin, and many others; and brilliant discoveries have been made and much valuable knowledge has been acquired of cerebral physiology and pathology, and tremendous strides have been made in medical science generally; but we are forced to admit that our fund of knowledge of this particular phase of nervous disease is yet superficial. Efforts are still being made to throw more light upon its exact pathology and etiology. No known lesion is pathognomonic of idiopathic epilepsy. The cause still remains to be discovered. There have been advanced by a large number of investigators, almost as many contradictory theories and opinions respecting the physiologic and pathologic phenomena of epilepsy, but Hughlings-Jackson and his

followers have contributed more than all the rest combined to the elucidation of this vexed subject. It is now a generally accepted theory (first advanced by Hughlings-Jackson) that the convulsive seizure is the result of an explosion of the nerve force in the higher cortical and sub-cortical brain centres, caused by nutritional disturbance. Seguin says that "this formidable affection has no uniform pathology; it is as yet only a *symptom* that may be produced by numerous pathological conditions."

TREATMENT.

Epilepsy may be divided into two grand classes, namely: *traumatic or symptomatic* and *true or idiopathic*.

The *first class* is often amenable to treatment. In every case of epilepsy, as soon as seen, get the family and personal history of the patient. Heredity is no small factor in the etiology of epilepsy. Ribot truthfully says, "the individual is the epitome of the past of his species." Clouston, the celebrated Scotch alienist, says that epilepsy, idiocy, insanity, convulsions, dipsomania, paralysis, and St. Vitus' dance are by nature and by heredity own brothers. Ascertain if there are any causes for reflex irritation, and remove all such, if there be any, by resort to surgical or medical means. With this view, make a careful and systematic examination of the head, eyes, mouth, nose, ears, rectum, genital and reproductive organs; look for symptoms of local organic changes either in the brain or its membranes, of intestinal parasites, of syphilis, etc. See if every organ is performing its physiologic functions.

Of late years, since the discovery of anæsthesia and antiseptis, marvellous scientific progress has been made in surgery of the brain and abdomen particularly, resulting in the radical cure of suitable cases of epilepsy. To Horsley, Keen, Weir and some others, we are indebted for some brilliant achievements in brain surgery.

The cranium was first trephined in 1705 by La Motte, but little attention was given the subject until quite recently. The possibilities of brain surgery are incalculable.

The removal of uterine lesions, tumors and diseased ovaries of epileptics, is frequently followed by gratifying results. In this department of surgery, Dr. Joseph Price, of our own country (a native Virginian), has done work worthy of special mention. If a reasonable hope of recovery or even much improvement can be promised from operative interference, it should, without hesitation, be resorted to. The success so far attained certainly warrants a more extensive trial of this procedure in the effort to cure this most dreaded of the neuroses.

By far the greater number of cases of epilepsy are idiopathic, in which the most careful examination fails to reveal the presence of any gross lesion, reflex irritation or toxæmic state, and the symptomatic manifestations of which are not yet clearly explained.—[Seguin.]

In the present status of our knowledge, and under existing conditions, there is little for us to do except to resort to medication, however empirical and unsatisfactory that may be. Clinical facts show that drugs are absolutely necessary. That physic does good there is abundant proof.

Idiopathic epilepsy is practically incurable, not one case in a hundred being ever permanently cured. Of course, in many instances there may be very great improvement, or even entire cessation of the morbid manifestations for a considerable time, several years it may be; but there is invariably a tendency to a recurrence after the suspension of treatment for a while. An attack, even in early childhood, seems to predispose to a subsequent attack, which may occur in mature years. An injury to the head may not be followed at once by convulsions, but several years may elapse before such direful effects are produced. Such cases have come under my observation.

For eight years I have had under my constant care and treatment a goodly number of epileptics, and I am not certain that I can boast of having seen a single permanent recovery from true epilepsy. Most all cases, however, have been greatly improved.

An almost inexhaustible number of therapeutic agents

have been used with varying degrees of success in the treatment of epilepsy. Chief among these are the bromides, belladonna or atropine, opium, chloral hydrate, physostigma, hyoscyamine, duboisia, simulo, strontium, borax, nitrate of silver, cannabis indica, arsenic, ergot, antipyrin, antifebrin, sulphonal, nitro-glycerin, nitrite of amyl, electricity, and intestinal antiseptics. I might enumerate the favorite drugs recommended as specially efficient by this and that authority, but too much time and space would thereby be consumed.

Bromide of potassium, since its virtue in epilepsy was first brought to the attention of the profession in 1857 by Sir C. Locock, an Englishman, has easily held the first place amongst medicines in the treatment of the disease. My own experience and observation have given abundant proof that most reliance, in a majority of cases, should be placed in the judicious administration of the bromides, combined with simple diet, consisting of proteids, fats, carbo-hydrates, particularly milk, healthy hygienic surroundings, moderate exercise, congenial labor, regulated brain work, plenty of refreshing sleep, no stimulants and no excitement. An abundance of pure water should be taken.

For "routine" treatment here are some excellent prescriptions:

R_y.—Potassii bromid..... gr. xx-xxx
 Sodii bromid..... gr. x-xx
 Ammonii bromid. gr. v-x
 Potassii bicarb..... gr. v-x
 Liquor potassii arsenitis... gtt. iiij
 Sp. menth. pip..... m. v
 Aquæ..... ʒss—M.

S. Take after meals in glass of water.

R_y.—Potassii bromid.
 Chloral. hydrat..... āā gr. xv-xx
 Strychniæ sulph..... gr. $\frac{1}{10}$
 Ext. ergotæ fl..... ʒss
 Ext. digitalis fl..... m. j
 Sp. menth. pip..... m. v
 Aquæ q. s..... ʒss—M.

S. Take in sufficient water after each meal.

R_y.—Potassii bromid.

Sodii bromid..... āā gr. x-xxx

Ext. ergotæ fl.....gtt. xv

Tinct. nucis vom.....gtt. v

Atropiæ sulph.....gr. $\frac{1}{120}$

Sp. menth. pip.....m. v

Aquæ.....ʒss—M.

S. Take as in preceding.

R_y.—Sodii boras

Sodii bromidum..... āā xxx

Aquæ.....ʒss—M.

S. Take in wineglassful of water three times a day after meals.

When there is maniacal excitement, the addition of cannabis indica or hyoscine proves serviceable. The latter should be given hypodermically. In hystero-epilepsy, physostigma, combined with bromide of potash, acts quite well in my hands. The systematic administration of chloral yields good results in *petit mal*.

Bromide of gold and arsenic—Barclay's liquor auri et arsenii bromidi being an excellent preparation—has lately been employed with happy results in some cases of epilepsy, especially when there were neurasthenia and the scleroses to combat at the same time.

In the *status epilepticus*, or when the convulsions become frequent, a large dose of chloral, either by the mouth or rectum, the latter being preferable in a majority of cases, will generally accomplish the desired object. I usually inject forty or fifty grains at once, preceded by a hypodermic of atropine. In this condition, a hypodermic of morphine is also quite reliable—I frequently resort to it. Atropine and morphine may be advantageously given at the same time, or atropine may be given alone.

In my hands, these three drugs—morphine, chloral and atropine—have yielded most satisfactory results, and I depend almost entirely upon one or more of them in controlling obstinate convulsions.

If there is anæmia, iron and cod-liver oil meet the indications. Iron may be appropriately given in the form of

the *syropi ferri bromidi*. If cardiac weakness exist, *strophanthus* or *digitalis* should be added to the prescription. During a course of the bromide treatment, an occasional dose of some saline laxative is required to prevent acne. Fowler's solution, too, will obviate this trouble, and, at same time, may exercise some influence over the epilepsy. Were I limited to two drugs in the treatment of all forms of epilepsy, I should select bromide of potassium and chloral hydrate. Let it not be forgotten that whenever syphilis is suspected even, iodide of potash and mercury, etc., should constitute part of our prescriptions. "Syphilitic epilepsy can, in most cases, no doubt, be very decidedly improved, and in some, absolutely cured."

The treatment of epilepsy in any event should be systematically carried out for a considerable length of time. I think it advisable to change the prescription occasionally. A remedy given for a long time will frequently lose its power to control or even modify the paroxysms, when a "change of medicine" will be quickly followed by decided improvement. Ordinarily, it is best to administer the medicine regularly three times a day, after meals, in doses large enough to produce physiologic effects. For instance, potassium bromide may frequently be given in one to three drachm doses, three times a day. Regulate the dosage not by weight or measure but by the effects. If the paroxysms show a tendency to come on at any particular time, the rule to give a large dose of the bromides alone or combined with chloral hydrate just before the expected attack, should be adhered to. A patient will sometimes show premonitory signs of an impending attack. It may be he will become unusually irritable, or depressed, or nervous. There are, in this Hospital, several patients who invariably become low-spirited, crying and refusing to be comforted, and others who become excited and quarrelsome. In all such cases, I am in the habit of giving a brisk purgative, followed by a large dose of chloral. The impending attack is generally aborted, and certainly very much modified in severity.

It should be borne in mind that potassium bromide, given

in very large doses for a long period of time, tends to produce nervous and mental deterioration. In pursuing the sedative line of treatment, the general health should be kept toned up to the normal standard, and the organs of digestion, elimination and excretion should receive the proper attention.

There are, in this Hospital, some very severe cases of *grand mal*, upon which I am trying the "opium treatment," recently recommended by Flechsig, of Germany, as superior to any plan of therapeutic treatment yet known to him. "Begin," he says, "with an average dose of either the powder or the extract of opium three times a day, enlarging the dose gradually till it reaches five or six grains. At the end of six weeks, the opium is suddenly discontinued, and in lieu thereof potassium bromide, in doses of thirty to forty grains, *ter in die*, is given for two months, when the quantity is, by degrees, reduced to about ten (10) grains at a dose." Some later day I will report what results I get from this new treatment, which, so far, has borne evidences of its value in some cases of *grand mal*.

Eye defects, such as error of refraction, doubtless bear some causative relation to epilepsy in many instances; hence the correction of the eye trouble, by the use of proper glasses, in combination with medical treatment, frequently cures or relieves the epileptic condition. In the last issue of "*Brain*," Mr. Work Todd has a most instructive article upon this subject. Ranney believes that many cases of epilepsy are due to defects of the eye.

Galvanization and faradization, continued for some time, and in conjunction with the usual medical and hygienic treatment, have, according to Erb, produced good results. I tried electricity on two cases, but saw no benefit from its use.

Voisin and Perron, from some late experiments, conclude that poisonous substances retained in the blood give rise to the convulsions. Haig and other authorities maintain that, from clinical and chemical demonstration, a large proportion of cases of epilepsy bears a close rela-

tion to the uric acid diathesis. Dr. John Fergusson, of Edinburgh, in a paper upon "Epilepsy," published in a late number of the "*Alienist and Neurologist*," argues that *epilepsy is a disease* which is frequently caused by excess of uric acid in the blood, and that the rational treatment consists mainly in limiting the production of this acid to the normal amount, by a properly regulated diet, composed principally of vegetables and milk, rigidly adhered to for a long period of time. Bromides, however, are not entirely abandoned. He claims that this theory is sustained by valuable clinical data.

The *antiseptic treatment* of epilepsy, as suggested by Herter, in 1892, has a distinct value in some cases, concludes an eminent American authority (Peterson), after an extensive application of intestinal antiseptics. Salol, salicylate of soda and beta-naphthol proved most efficient in that investigator's hands. We have in this hospital two cases of epilepsy complicated by phthisis, in which the administration of *creosote*, combined with strychnia, and a liberal milk diet, seems to have caused almost entire cessation of the epileptic attacks for five months. I shall give this plan of treatment further trial. I am trying salicylate of sodium on several cases, with apparent benefit.

Rest in bed for a prolonged period is a method of treating this disease which a German specialist (Dr. C. Neisser) extols in a recent contribution to the subject. Many neurologists (Mitchell among them) place great reliance in absolute rest in the treatment of various nervous diseases.

Animal extracts, such as the cerebrum of the sheep, testicular juices, etc., given by hypodermatic injection, have recently been added to our epileptic pharmacopœia, but sufficient data have not been published to justify a verdict for or against that novel method of treatment. Féré, one of the ablest of the French neurologists, disapproves of the method.

The earlier epilepsy is properly treated, the more favorable is the *prognosis*. Each case is a study unto itself, and should be treated with that fact in view. Treatment should

be continued at least two years after the last attack. If an attack does not recur in four or five years after suspension of treatment, I think one is justified in pronouncing the case a cure, though, as I have said before, there is always a tendency to a return of the trouble.

I would be false to my profession, as well as to my own honest convictions, did I not take this opportunity to condemn the use of all secret or quack remedies in this or any other disease. How can an honest, scientific physician prescribe such stuff?

TRIALS OF THE EPILEPTIC.

The victims of this dread disease occasion inexpressible anxiety to their families and friends, for they are, when left alone, always in danger of receiving accidents more or less serious. They need constant care and supervision by patient and sympathetic hands, which, in a greater proportion of instances, it is impossible for them to get. For obvious reasons, most epileptics are debarred from the occupations, pleasures, and associations usually participated in by their less unfortunate companions. The very nature of their affliction prevents them from engaging in most of the ordinary vocations in pursuit of a livelihood and happiness—two of the chief aims of mankind. No one likes to employ an epileptic in any business, trade or profession. There are, of course, some who are so slightly affected that they are not prevented from engaging in almost any occupation they choose. Oftentimes they are neglected and denied the opportunities of becoming fitted for life's struggle; kept away, in many instances, from school, church and society. Consequently, they are apt to deteriorate physically, mentally, and morally—some dying from the actual want of proper attention; others drifting into alms-houses, or into insane hospitals, where they become a charge for life upon public charity. On account of the distressing characteristics and intractable nature of their malady, general hospitals seldom take epileptics. Experience shows that it is impossible to obtain proper treatment and care at their own homes.

The proportion of the population of a country affected with epilepsy forms a very interesting study. Hirsch estimates that the proportion for Southern Europe is fully 1.5 per 1,000; in France 1.6 per 1,000; and in Italy 2.4 per 1,000. In this country, it has been estimated by the best authorities that the proportion is about 2 per 1,000. Think of it! One hundred and thirty thousand epileptics in the United States. Supposing a fourth of these (a very fair estimate) are being cared for in hospitals for the insane and idiots, there would still be 97,500 distributed in thousands of private homes throughout our country. Virginia's share would be in the neighborhood of 3,000, but even *half* of that is an enormous number of such defectives to be within our State, almost destitute, in most cases, of proper care and treatment, in this enlightened age. Surely no one is calculated to evoke our sympathies more than that of one having epilepsy.

COLONIES FOR EPILEPTICS

Seeing that the treatment and care of epileptics are not what they should be, we, as a civilized, humane people, are confronted with the question: What should we do for the relief and comfort of this large class of our unfortunate fellow-beings? Naturally one's thoughts first turn to the hospital, for this is pre-eminently a hospital age; but the hospital, as such an institution is generally constituted, does not meet the requirements of this particular class. Dr. Frederick Peterson, of New York, puts it right when he says: "What is demanded is an institution on the community or village plan, where medical treatment (such as it is) may be given to every member, and where every sort of education, employment, and social privilege, commensurate with his needs and conditions, may be extended to every beneficiary."

Not many years ago, Rev. John Bost conceived the idea of establishing a home for epileptics at La Force, near Lyons, in France. The great good done at this little establishment inspired a noble philanthropist, Pastor von Bodel-

schwingham, to found the *Bethel Epileptic Colony*, at Bielefeld, Germany. One small house, a few acres of land, and four epileptics constituted the modest beginning of what is now one of the noblest charities and most wonderful institutions in the world. It embraces sixty or seventy pretty houses, dotted here and there over a farm of several hundred acres of fertile land, where are comfortably domiciled fourteen hundred epileptics. Each dwelling-house in the Colony is made homelike and attractive, and the attached grounds are beautified with trees, shrubbery, flowers, gardens, etc. Healthful and remunerative occupations are provided to suit the tastes and inclinations of every individual. There is in successful operation a large school, in which all branches of learning are taught the younger people. The farm, garden, and dairy afford employment to a great many, and bring in a considerable revenue. Clothes, shoes, hats, brooms, mats, buckets, baskets, and many other articles of trade are manufactured on the premises. Printing, book-binding, painting, sewing, knitting, "fancy work," washing, cooking, and other kinds of labor afford diversified occupation for many of the inhabitants of the place. Thirty or forty different occupations are followed by the men alone. Games, indoor and outdoor amusements, and pleasant diversions of every kind are engaged in. Everything possible is done to make the dwellers in the Bethel Colony happy, contented and useful. Contrary to the general belief, these people dwell together in harmony, waiting upon one another in sickness, and otherwise doing deeds of kindness. A spirit of love and sympathy is encouraged and cultivated in every way possible.

The hope of the founder has been realized—that is, to furnish a resort where epileptics can have the most scientific medical treatment, proper nursing, healthy environment—physical, mental and moral—attention to diet and personal hygiene, and useful and congenial occupations.

Peterson, after a visit to Bielefeld, said that "every one who visits this unique Colony is deeply impressed with the

happiness, contentment and prosperity everywhere apparent among the inhabitants of this little epileptic world ; it is no longer an experiment, and the previous unanswerable objections to such aggregations are by its success answered and silenced." The results at Bielefeld were so satisfactory that noble-hearted and philanthropic individuals and charitable societies have established similar institutions in Germany, Holland and Switzerland, and elsewhere, all of which are proving a great blessing. In these colonies provisions are made for the temporary care of any who may become dangerously insane, until they can be conveyed to a hospital for the insane. These colonies are almost self-sustaining, and are becoming less and less burdensome from a financial point of view. In England, some efforts for the special relief of epileptics, have been made by the English National Society for the Employment of Epileptics, in Buckinghamshire, and by the Countess of Mearth, at Godolming, in Surrey.

CARE OF EPILEPTICS IN THIS COUNTRY.

Our own country has been very derelict in its duty to those of its subjects who are sufferers from one of the most distressing maladies that afflict mankind. Until within the last few years, nothing of any consequence had been done to alleviate the sad condition of the thousands of epileptics in our midst. Ohio was the first State to recognize in a substantial way the needs of this class of our population. November 12, 1891, was a notable day in this country, for on that day was laid the corner-stone of the first public hospital for epileptics erected on this continent. "The Asylum for Epileptics and Epileptic Insane," at Galipolis, Ohio, was opened for occupants in 1892. The establishment consists of an aggregation of buildings, on the pavilion plan, located on a small farm. It is well equipped in every particular, having capable physicians, a pathologist, trained nurses, and all other officers and employees necessary for a well-regulated hospital. It is proposed to have shops, industries of various kinds, gymna-

sium, amusements, etc., to supply means of employment and recreation for the occupants. But this hospital is not what it should be. In the first place, no insane patients should be admitted. In the second place, there should be more land attached for agricultural and horticultural purposes, and facilities for raising stock and making dairy products. There are also some other defects. All these defects will, it is said, be in time corrected, at least in a very great measure. There are now in this hospital more than 200 inmates, all men. The cottages for females are nearly completed.

The good example set by Ohio, in an effort to provide a refuge for her epileptics, was soon followed by New York. Upon the authority of the Legislature, session 1893-94, steps are being taken to make provision for a large number of epileptics. Those put in charge of the matter purchased an estate formerly owned and occupied by the Shakers, or "The Sonyea Society of United Christian Believers," which consists of a tract of 1,875 acres of rich land, well watered, and located in the picturesque Genesee Valley, in Livingstone County. On this farm are thirty-five buildings, well suited for the uses to which they are to be put. "The Sonyea Colony," as this home for epileptics is called, will be ready for occupancy within a year. It is very wisely modelled, and will be managed very much after the manner of the Bielefeld Colony. It is chiefly for the benefit of the dependent epileptics of the State—what a noble charity—but arrangements will be made, after awhile to care for some pay patients. It is the purpose of the managers to provide every means of cure and amelioration of epilepsy known to science, in the hope of bettering the condition of the unfortunate creatures who will come seeking much-needed help. No insane epileptics will be admitted. It is thought that this Colony will, in time, become self-supporting.

California has caught the inspiration. Provision is being made, at the Home for Feeble-Minded, in Sonoma County, for the care of the indigent epileptics of the State.

In Illinois, Wisconsin, Massachusetts, Pennsylvania, and Michigan, efforts are being made to have established public institutions for the care and treatment of epileptics.

In the humble judgment of the writer it is the duty of the State to do something to alleviate the wretched condition of its epileptics, who, next to the insane, appeal most to our merciful sympathies. The care of epileptics on the colony plan, having proven to be a successful one, is the most desirable. It is practicable; it is inexpensive; it is humane. Cannot the medical profession be aroused to a proper sense of obligation and the community at large to a just appreciation of the needs of these unfortunate creatures? I appeal especially to the profession of my own State.

ART. II —The Cold Poultice as an Antipyretic in High Grades of Fever.

By BEDFORD BROWN, M. D., of Alexandria, Va.,

EX-PRESIDENT SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION; EX-PRESIDENT MEDICAL SOCIETY OF VIRGINIA, ETC.

I desire to call attention to this simple, but efficient, agent as an antipyretic in high grades of fever, either typhoid, malarial, or pneumonia. It is an agent that I have used for this purpose for the past fifteen years, with much satisfaction to myself and infinite comfort to my patients. It is an antipyretic that possesses many advantages over the many coal tar agents of this kind, inasmuch as it never depresses the action of the heart or the nervous system, but accomplishes its work speedily, easily, pleasantly, and with comfort to the patient, and always leaving him in a better condition than it found him.

The cold poultice: how it is prepared and applied.—A sufficient quantity of flax seed meal to prepare a poultice of suitable dimensions is placed in a common earthen bowl, and over this is poured boiling water, while the meal is constantly stirred with a large spoon until cooked to the

consistency of soft mush. This material is then spread on a piece of soft cotton cloth, for an adult, about eighteen inches long and twelve or fourteen wide, or sufficiently long to cover the entire abdomen, from the pubis upward, extending at least half way the chest, well over the cardiac region, so as to fully cover the heart and half of the chest. This poultice is now covered with another piece of cotton of corresponding dimensions. After being spread and covered, the entire surface to be applied to the person is frequently besprinkled with ice water until its temperature goes down to 68° or 70° , when it is ready for application. At this point, I would suggest that the poultice be not spread too thick, as in that case it would prove oppressive to the patient.

The poultice as thus prepared is applied over the chest, from above the cardiac region to the pubis. In my experience with it, which dates back fifteen years, I have never known it produce shock to the nervous system or discomfort to the patient. On the contrary, patients with high fever, who have learned its advantages, will often request it when they feel sensations of rise of temperature. Its work, different from that of the cold bath, is accomplished slowly, gradually, gently, and effectually. I regard the cold poultice, applied in this way, as a good substitute for the cold bath, and as a measure, while efficient, without its many disadvantages, dangers, and difficulties of application.

In the *treatment of acute disease*, high temperature constitutes one of the greatest difficulties in the practice of our profession, and is a question of vital importance. Of late years, our principal means for the reduction of high temperature have been the cold bath, cold sponging, the coal tar antipyretics, as antipyrine, antifebrine, phenacetin, salol, quinine. These are all valuable remedies, and occupy an important place in our medical armamentarium.

Of all these agents, the quinine is the most permanent in its effects. But the practitioner frequently meets with cases of fever of dangerously high temperature in which even large doses of quinine accomplish but little, and antifebrin

or phenacetine in full doses will reduce temperature only one or two degrees, with an enormously exhausting perspiration and unpleasant cardiac depression; and then the reduction of temperature is only for a short time, and our work has to be gone over again and again, with the same unpleasant results. If this routine is to be continued from day to day, from week to week, there comes a time when the remaining strength and physical powers of our patient will become exhausted. In truth, under such circumstances, we will note, if we are careful, that the waning strength of the patient is leaving him day by day.

It is just under such circumstances that it becomes necessary to resort to other antipyretics that will not shock the general system as the cold bath or depress the vital powers as the coal tar antipyretics. And here, under these circumstances and in this perplexing condition of affairs, is where the simple and unostentatious cold poultice supplies a most important deficiency. It has not the dramatic effect of the cold bath, and not its apparent scientific glamour, with all of its paraphernalia and systematic arrangements. It is too simple to be regarded as scientific. But, far more valuable than all of these, it is effective and innocent. It is a simple and pure antipyretic, efficient and without danger.

It is not designed to cover the entire treatment of fever, but to aid other methods in the treatment of that condition, and to take the place of some and to aid others in their work. It co-operates well with the sulphate of quinine; it takes the place very much of the coal tar preparations, and it does not interfere with the internal administration of antiseptics.

In that class of cases of pneumonia of violent type, with an unyielding temperature of 104° or 105° , frequent, hard, wiry pulse, great frequency and oppression of respiration, I have seen a cold poultice applied over the entire chest, extending back well over the sides, accomplish more in the reduction of temperature, of frequency of cardiac action and respiration than all other local agents combined, and at the same time with infinite comfort to the patient. In

the application of the poultice, my rule has been to remove it when the temperature falls to or about the normal, and to replace it when it begins to rise; or, on the contrary, when the temperature is not reduced to the normal, to continue the poultice until the reduction takes place by the renewal of fresh applications.

For the purpose of illustrating more clearly the action of this remedy as an antipyretic, I will here cite the history of one or two cases:

CASE I.—Mrs. P., a robust and fleshy young married woman, with two children, in the month of September, eighteen years ago, was attacked with typhoid fever of a very violent grade. At a very early period of her case the symptoms were of an alarming character.

On the tenth day of the attack, the pulse was 130; the temperature $105\frac{1}{2}^{\circ}$; almost constant delirium; tympanitis; diarrhœa; dry tongue. This case occurred before the introduction of the modern coal tar antipyretics, consequently I had to depend on the use of quinine and cool sponging. My remedies failed utterly to reduce the temperature a single degree, and it finally reached 106° . My case had now reached a point when death must ensue if relief failed to come. I will note the fact here also that she suffered from constant insomnia, restlessness, and jactitation. This description presents a picture of a case with about as little to base a hope on as we usually meet. In this condition of affairs, the cold poultice suggested itself to my judgment as holding out some hope of good results. The entire chest and abdomen were covered promptly with one, and never did a remedy act more gratefully. In fifteen hours the temperature was down to $101\frac{1}{2}^{\circ}$; the pulse 110; the patient was in a pleasant sleep and perspired freely, and the mind comparatively clear. The poultice, when the temperature reached to near the normal point, was removed, and re-applied when it began to rise. With the aid of quinine, some intestinal antiseptics and nourishment, this patient, after an illness of five weeks, made a good recovery.

I present these suggestions of a remedy here simply as an addition to our means of reducing high grades of temperature, and not as a sole means, but one that has in past years served such a good purpose, and still continues to do so. Whatever remedy is capable of reducing the tem-

perature in fever of from three to five degrees, without disturbing the equilibrium of the economy, without detriment to the vital processes of nutrition and metabolism, or in any way agitating the nervous centres, is worthy of our adoption.

Now, relative to a rational explanation of the action of this agent, it can be said that, in the first place, the heat is directly subtracted from the great central organs—the heat centres of the system—and not directly from the extremities. In the first place, from a heart that is being crushed down from hyperpyrexia; and, furthermore, the stomach, liver, spleen and intestines, and even kidneys. But this is by no means all. The great sympathetic and vaso-motor systems are being paralyzed by the ravages of high temperature, and we see in the furious rapidity of the action of the heart that the balance of inhibitory power is lost. This agent relieves the great sympathetic system of the terrible burden which it is carrying and crushing its life out, and in that way restores the equilibrium of health. Cold applied in this way over the great central organs of the body is not a depressant of cardiac and vaso-motor action, but appears to be one of the most certain and invigorating cardiac and vaso motor tonics that we possess in fever, because it acts as a direct stimulus to the nerves of inhibition. We can readily see or imagine the action of an agent on the general system which subtracts in a few hours four or five degrees of temperature from the great ganglionic system of the abdomen, when the temperature ranges from 103° to 105° . A temperature of 105° is destructive to the organic tissues of the heart and ganglionic systems. The organic structures of these organs undergo rapid degeneration and softening from hyperpyrexia, and hence the absolute necessity of maintaining the temperature of the heart and ganglionic systems at a moderate degree.

In cases of fever, with a dangerous degree of hyperpyrexia, say, 106° or 106.5° , with delirium, insomnia, constant restlessness, contracted pupil, scanty, high colored urine, these symptoms clearly indicate that this intense degree of tem-

perature is exerting a destructive influence on the great nervous centers—the brain and spinal cord—and, if prompt measures are not taken to reduce this hyperpyrexia to a safe degree, the brain and spinal cord will be overwhelmed in hopeless ruin. This can only be accomplished either by the cold bath, internal antipyretics, or the cold poultice. In certain cases in my practice, the latter measure, applied over the entire spinal column, from the cervical vertebræ to the sacrum, with these symptoms, has exerted a marvelous effect in relieving the nervous system, in subduing inordinate nervous erethism, relieving delirium and restlessness, and in promoting sleep.

In a case of this kind, during a relapse from a four weeks' illness, where the temperature approached 106° , pulse 130, utter sleeplessness and constant restlessness, a long poultice, at 70° , was applied from above the cardiac region to the pubis; another, at the same temperature, ten inches wide, was applied over the nucha to the sacrum, and the head having been shaved, an ice bag was applied over the head. In two hours, there was a reduction of two degrees. In twelve hours, a reduction of five degrees, with copious warm perspiration, with the result of refreshing sleep, nervous composure, relief of delirium, and reduction of the pulse to 100. On one or two occasions subsequently, when there was manifested a disposition of these symptoms to return, the same remedies were applied with identical results, and under the usual treatment, the case terminated in recovery.

In the *treatment of acute peritonitis*, I have not as yet tested the powers of the cold poultice as an antipyretic and antiphlogistic. I feel very sure that in this class of cases poultices, at a temperature of 70° , applied systematically at intervals of one hour, would exert a beneficial influence.

There is a certain degree of art to be observed in the preparation of these poultices. They should not be spread so thick and heavy as to weight down the patient and cause a sense of oppression, but not over a quarter of an inch in thickness, and then reduced to a uniform temperature, as

tested by the clinical thermometer. In cases of temperature not exceeding 102° , I often order a cold poultice at first made with hot water, and then permitted to cool either by the atmosphere or application of ordinary hydrant or pump water, and find in such cases the effects excellent.

**ART. III.—The Antiseptic Treatment of Infectious Diseases,
and their Poisonous Remedies Rendered Innocuous.**

By OSWALD L. SCHREINER, Ph. G., of Baltimore, Md.

MEDAL GRADUATE OF MARYLAND COLLEGE OF PHARMACY; GOLD MEDAL PRIZE ON
CHEMISTRY FROM WM. SIMON, PH. D., M. D.; ALUMNI GOLD
MEDAL FOR ORIGINAL INVESTIGATION, ETC.

In the very earliest stages of civilization, man, although ignorant of the nature and the cause, and therefore not able to combat, began to defend himself against the hostile powers of disease; and in the further development of centuries, found means to protect himself and retard the onward march of those distressing scourges, known as infectious, contagious, or epidemic diseases. Thus we hear of the Chinese, who, 3,000 years ago, dressed in the garments of patients sick with small-pox; also the Brahmins who applied, to their arms and necks, ropes that had been soaked in the virus of the same disease, thus producing immunity.

At the present time, we possess the knowledge that we are oppressed by the omnipresent infinitesimal germs, or micro-organisms, through whose ravages whole countries have been devastated and nations have fallen a prey; but "knowledge makes us free;" so does the knowledge of the cause of these diseases. The danger of the existence of such a cause being recognized, science steps to the front to furnish us with means with which to combat these micro-organisms. The labors of Pasteur, Lister, Koch, Virchow, Bouchard, and many others, will never be forgotten; they have solved a problem, the solution of which is of incalculable benefit to humanity.

The relation which these micro-organisms bear to infectious diseases are summed up in the following abstract from

"Bacterial Poisons," by Prof. W. Simon (*Pharm. Review*, Feb., 1892):

"1. Certain micro-organisms are found in the bodies of men and animals suffering from certain infectious diseases.

"2. These micro-organisms, when completely isolated, and properly transferred into the body of healthy, susceptible animals, cause in them, under favorable circumstances, the same diseases.

"3. Inoculation with the micro-organisms, characteristic of certain diseases, or inoculation with a modified form of these micro-organisms, gives, in many cases, immunity from the respective diseases for a shorter or longer period of time.

"4. Prevention of access, or destruction of micro-organisms after access, as carried out, for instance, in the antiseptic treatment of wounds, prevents the appearance of diseases which might otherwise follow.

"5. These facts prove conclusively that certain infectious diseases are caused by micro-organisms. The diseases for which this has been established are anthrax, cholera, tetanus, tuberculosis, septicæmia, diphtheria and others."

Admitting, then, that infectious diseases are of bacterial origin, and that their distressing characteristic symptoms, the specific pathological lesions, are caused by the growth, degeneration and multiplication of minute organisms in blood and tissues of the living body, the treatment that such circumstances would suggest, would be to act directly upon the micro-organisms with a remedy detrimental to their existence or development. For having gotten rid of the cause, the system will be in a condition to eliminate the poisonous products of bacterial life itself, providing the disease has not advanced so far as to render the organs of elimination powerless. This is the "antiseptic" or "antotoxic" method of treating infectious fevers.

Those compounds which have shown themselves to possess the greatest antiseptic and germicidal powers, belong to the class of compounds known as phenols—*e. g.*, phenol (carbolic acid), cresol, guaiacol, thymol, naphthol, pyrogallol, pyrocatechin, resorcin, etc.—and derivatives of these containing the halogens—*e. g.*, chlorophenol, tribrom-phenol, dithymol-diiodide (aristol), etc. That these compounds are of inestimable value when judiciously employed externally, is

well shown by the recent advances in antiseptic surgery, for, thanks to the researches of Lister, many hundreds of human lives are saved annually—saved from an early grave by the use of these compounds. But the benefit that may be derived from their internal administration hardly compensates for their own toxic actions. They are extremely caustic to the skin, are very irritating to certain nerves, readily induce nausea and often vomiting, their odor is usually strong and unpleasant, their taste disagreeable and burning. They suspend the action of pepsin, ptyaline and other ferments outside of the animal economy, and no doubt act similarly within. In infectious diseases, the digestion and assimilation are already taxed to their utmost, and it would not take large quantities of these compounds to completely arrest them; the result is obvious.

The action of the phenols is, therefore, of such a nature that only minute doses can be administered—doses insufficient to produce the desired result. We here have excellent remedies that cannot be used to advantage on account of their destructive action upon the animal economy; but the chemist, the physician's best ally, lends a helping hand, and steps to the side of the helpless therapist, and, by combining the poisonous phenols with organic acids (salicylic, benzoic, cinnamic, etc., and even carbonic acid), that is, converting them into esters (compound ethers), he is able to obliterate their toxic, and yet retain their germicidal and antiseptic power.

The class of compounds of this nature has been denominated the "salol group," after the name of its most important and better known member, viz., salol. Other members besides salol are now coming into use as valuable substitutes for the latter in cases where this is not applicable nor desirable. The most important are:

Salol—phenol in combination with salicylic acid, phenyl salicylate.

Naphthalol (*Betol*)—beta naphthol in combination with salicylic acid, beta-naphthyl salicylate.

Benzo-naphthol—beta-naphthol in combination with benzoic acid, beta-naphthyl benzoate.

Para-cresalol—para-cresol in combination with salicylic acid, para-cresyl salicylate.

Benzosol—guaiacol in combination with benzoic acid, benzoyl guaiacol.

Styracol—guaiacol in combination with cinnamic acid, cinnamyl guaiacol.

Guaiacol-salol—guaiacol in combination with salicylic acid, salicyl-guaiacol.

These substances occur as white crystalline powders, insoluble in water, soluble in alcohol, chloroform, ether, fixed and volatile oils, glycerin, etc. Unlike the free phenols, they are without the least irritating action upon the most sensitive mucous membranes; they are tasteless and odorless, or nearly so; hence have no unpleasant effect upon the senses of smell and taste, which so often cause the stomach to reject the uncombined phenols. They produce no nausea nor giddiness, and do not interfere with the digestive processes in the least. They all pass through the healthy stomach unchanged; but if this be abnormal—that is, when fermentative changes are going on—small quantities of the phenols are liberated which suppress the fermentation; hence their value in fermentative dyspepsia, etc. In the alkaline juices of the small intestine, these compounds are attacked by the pancreatic ferments, and decomposed into the free phenols and the organic acids. Salol splits up into phenol and salicylic acid; naphthalol into beta-naphthol and salicylic acid; benzosol into guaiacol and benzoic acid, etc. From this it will be readily seen that the medicinal properties of these compounds is that of their components.

Any germs that may be present in the stomach or intestine, are acted upon by these substances and removed from the system, while the action of the liberated phenols upon the animal economy is not so detrimental, due to the fact that they are liberated only gradually and rapidly absorbed, for it must be remembered that absorption is more rapid in the intestine than in the stomach, due to its greater absorb-

ing surface. By this, their poisonous action is almost completely annulled, and after absorption they enter into combination with the albumins and tox-albumins (the product of bacteria), when they suffer oxidation and are eliminated in the urine as ethereal sulphates. They are not present in the blood as free phenols, for, after absorption, they form non-antiseptic compounds, as the blood is not rendered sterile even after large doses of guaiacol (Hoelcher, *Berl. Klin. Wochenschrift*, No. 3, 1892.)

Another class of compounds that is forcing its way into the front ranks of modern therapeutical agents is that of the "carbonates." The most important members of this group are:

Guaiacol carbonate, containing 91 per cent. of guaiacol combined with carbonic acid. It is an odorless, tasteless, non-caustic, crystalline solid, melting at 80° C.

Oreasote carbonate, a clear brownish yellow, honey-like fluid, odorless, and only a slight bitterish taste. It is not as energetic nor as pleasant to take as guaiacol carbonate; but possesses the advantage of being cheaper than the latter drug, and may therefore be prescribed for patients in moderate circumstances.

Other members still under therapeutical investigations are: *eugenol carbonate*, *pyro-catechin carbonate*, *chloro-phenol carbonate*, and others.

These compounds are similar in their constitution to the "salols," the organic acids in the latter being replaced by carbonic acid. They decompose, moreover, in the same manner as the salols; in case of fermentative processes in the stomach, some of the phenol* is set free; in the small intestine they are decomposed completely into the phenol and carbonic acid, whereby the full therapeutic value of the remedies may be obtained without their disagreeable and toxic properties. The liberated phenols are immediately absorbed into the circulation, where they combine with the tox-albumins present in the blood, and these combinations

* It must here be observed that the name "phenol" is used to designate any member of the class of phenols, and not carbolic acid only.

then suffer oxidization and finally elimination, whereby the system is continually being de-poisoned—if we may use this expression.

We must, however, not lose sight of the fact that the micro-organisms are only the *primary* cause of these diseases, for it is now almost generally admitted that poisonous substances formed by the bacteria are the main factors in producing the symptoms of the disease. There are three ways in which these poisonous substances may be generated: first, the bacteria themselves may be poisonous; second, the bacteria may generate a poisonous chemical substance; third, the bacteria may act upon the normal complex constituents of the body, and produce poisonous compounds which produce disease and, finally, death. At present, we can say nothing positive as to the existence of the first nor second possibilities, but we know with certainty that the third one does exist. This may be shown by the action of bacteria upon substances of known composition, when poisonous products will be generated, which, when injected into healthy animals, produce in them the characteristic symptoms of the disease represented by the micro-organisms used. As early as 1856, Panum, a Danish investigator, demonstrated that the poisonous action was not due to the bacteria, but to some chemical compound produced by its development and growth. This poisonous compound was not decomposed even after long dessication at 100° C.; it possessed extremely active physiological properties, and 12 milligrams (about $\frac{1}{5}$ gr.) sufficed to kill a dog. This circumstance explains the fact that death may occur in the course of an epidemic and yet no micro-organisms will have reached the circulation.

It is, therefore, of the utmost importance that these poisonous substances of bacterial life should be more closely studied, a work that is now occupying the time of many able investigators. Their isolation is very tedious, as they are only with great difficulty separated from other substances and also from one another. It is now the chemists' task to find methods by which these substances may be

separated, and their composition, properties, relation, and even the structure of the molecules themselves ascertained; when this is accomplished, we may hope for a solution of the problem. Until then, with proper diet, hygienic methods, and immunity-giving substances, and with the remedies to which attention has been called in this article, much may be done to prevent, moderate, and even effect a cure in these diseases. At present, we must be content to keep these most terrible of all the ministers of death under control.

Fulton and Riggs Ave.

ART. IV.—Treatment of Club-Foot by Wolff's Method.*

By A. R. SHANDS, M. D., of Washington, D. C.

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In presenting to you, this evening, this report on the treatment of club-foot, it is not intended that any new method shall be advanced on this subject, about which so much has been written, nor to discuss any of the numerous theories described in all of the text-books; but simply to give a practical illustration of the method and the results of a treatment by means of plaster-of-Paris that is practiced by Prof. Julius Wolff, of Berlin. Various means have been and are being used for the correction of this deformity, such as plaster-of-Paris, splints, orthopædic appliances of various kinds, as well as various operative measures, such as tenotomies, fasciotomy, tarsectomies, etc., all giving, in the hands of the competent surgeon, good results. No rule can be established as to which is the best treatment, for in this, as in everything else, the method that the surgeon best knows is apt to give the best result. All admit that nothing in the whole range of orthopædic practice requires more persever-

* Read, by invitation, before the Orthopædic Section of the New York Academy of Medicine, October 20th, 1893.

ance and closer attention to the minute details of the means used than the treatment of an extremely deformed club-foot.

It was early in the spring of the present year that Dr. Gibney, Surgeon-in-Chief to the Hospital for Ruptured and Crippled, called my attention to the Wolff method of application of plaster-of-Paris in the treatment of club-foot, and it was at his suggestion that this treatment was begun in these cases that I have the honor of presenting to you this evening. Only in the non-use of any anæsthetic has the treatment differed essentially from that of Wolff, as described in a paper read before the "Association of American Physicians," in Berlin, by Dr. Freiberg, of Cincinnati, and published in this country in the *Medical News*, October 29th, 1892.

In the paper above referred to, Wolff is said to first anæsthetize his patient, except in cases of very young children and in slight degrees of club foot, and then, by manual force, he brings the foot into its proper position, or as nearly so as he can at one sitting without use of too much force. Then, while an assistant holds the foot in this corrected position, he applies strips of rubber adhesive plaster spirally around the foot, extending them well up above the ankle. This is done with a view of aiding to hold the foot in its new position until the plaster-of-Paris is applied. As no attempt has been made in these cases to reduce any of the deformity at the first sitting, there has been no need of either an anæsthetic or the adhesive plaster. No difficulty has been found in these cases to apply the dressing with the assistance of an ordinary nurse, after which the patient has been allowed to remain undisturbed for at least twenty-four hours before beginning the redressment. This gives ample time for the plaster to set, and, at same time, serves to restore confidence on the part of the child. At the first two or three sittings, an attempt has been made to correct but very little of the deformity, for the pain will be much greater at first than it is later on. It will be found to be best to regu-

late the amount of twisting all through the course of treatment by the amount of pain it gives.

The method of applying the plaster and the treatment is as follows: First, apply a piece of cotton felt to both the outer and inner borders of the foot, extending it over the malleoli. This is done as an extra precaution for the protection of the bony prominences, being needed especially over the metacarpo-phalangeal joint of the great toe, and over the cuboid bone—the latter being usually very prominent. Then apply snugly at least two thicknesses of a canton flannel bandage to the foot and leg, extending it up as far as the tuberosity of the tibia. Now, having the foot and leg well protected, the plaster is applied, extending it also up to the tuberosity of the tibia; this will prevent the leg from moving in the plaster case and give a better leverage when the redressment is begun. Two ordinary sized plaster bandages will be found quite sufficient for a foot and leg of a child six or eight years old. Care should be taken to have the toes held in their natural relation to each other; otherwise you will have an uneven pressure, and, as a result, swelling and pain. The plaster should extend well over the toes, leaving their ends exposed; then grasp the leg with one hand, holding it steady on the table, and with the other make pressure on the plantar surface of the foot with a small piece of board. This serves the purpose of overcoming some of the deformity, and, at the same time, will give an even surface upon which the child can walk. On the following day, begin the redressment by cutting out a wedge-shaped piece of the plaster on the outer border of the foot, selecting the point most prominent in the deformity, for there is where the pressure is most needed, then connect the upper and lower angle of this cut by cutting a line through the plaster only around the foot. Care should be taken not to have this linear cut around the foot near enough to the heel to allow the foot to slip in the dressing when it is twisted, and thereby defeat the object in view. The plaster case is now in two parts, each firmly fixed to the foot; now, by grasping the leg with one hand

and the end of the foot with the other, it takes but little force with this leverage to bring the opposite sides of the wedge-shaped incision into apposition, and thereby overcome a certain amount of the deformity. While an assistant holds the parts in their new relation to each other, they are fixed there with another wet plaster bandage applied around the foot and ankle in a figure of eight, care being taken to fill well the gap made by the linear incision on the inner side of the foot. This third bandage being applied on a dry surface, it can be easily peeled off at the next sitting; then make the wedge-shaped incision larger, and repeat the redressment as before. This can be repeated three or four times, when it will become necessary to apply an entirely new dressing. Great care should be taken lest you get compressed, between the edges of the plaster when forced together, a fold of loose skin, in which case a bad excoriation will result. This was learned by experience, for, in one of these cases, not only the operation had to be suspended, but the excoriation becoming infected, quite an extensive cellulitis followed which gave some trouble to heal.

Cutting plaster dressing is no easy job; quite a simple and easy way of doing it in these cases is to use a small, fine-tooth hand-saw, and by dipping it in warm water every few seconds it goes through quite easily. The foot being well protected with cotton felt and bandages, there is little or no danger of its being cut. The number of sittings will have to be regulated by circumstances, pain, etc. In these cases it has been done in two four times a week, and in the others two and three times a week. The condition of varus should be corrected first, after which the equinus can be corrected by making the wedge incision on the dorsum of the foot, and the linear incision over the heel, so as to allow the tendo-achilles to be stretched. If much pain is complained of, which is likely to occur only at some of the bony prominences, it can be readily relieved by cutting out a fenestrum and thereby relieve the painful pressure.

The treatment should be continued until the foot is some-

what over-corrected, and then Wolff advises that it be held there by means of a plaster case protected with silicate of soda, and, incorporated in the plaster, a piece of light steel extending from the ball of the foot above the heel. A piece of steel one half inch wide and as thick as the blade of a case knife, will be found quite sufficient. Then fit a shoe over this case, which is allowed to remain for at least six months.

CASE I.—Louis S., age eight years. Diagnosis: Left congenital equino-varus. *November 8, 1892.*—Astragalus removed.

January 10 and February 20, 1893.—Under ether, foot twisted with Thomas' wrench.

March 14.—Wolff treatment begun; has 35 or 40 degrees of varus remaining.

April 15.—Deformity corrected; had redressment bi-weekly.

CASE II.—Charlie B., age eight years. Diagnosis: Double equino varus. Left foot has 35 degrees of varus; right, 45 degrees. *March 21.*—Etherized; has left achillotomy, plantar fasciotomy, and twisted with Thomas' wrench. Right foot has Wolff method begun.

April 10.—Left foot again twisted with Thomas' wrench, and put in plaster.

April 20.—Both feet over-corrected. Right foot has had Wolff method bi-weekly.

CASE III.—Willie S., age six years. Diagnosis: Left equino-varus. Has 45 degrees of inversion. *March 25.*—Wolff method begun.

June 1.—Deformity overcome entirely. Has had redressment bi-weekly. Discharged from hospital with foot in plaster and silicate of soda case.

CASE IV.—Willie C., age eight years. Diagnosis: Left equino-varus. Had Phelps' operation at Bellevue in 1891. *September 10, 1892.*—Stands with external border of foot on floor and in extreme inversion.

March 24, 1893.—Has had ether five times since admission, and foot twisted with Thomas' wrench and plaster applied at each sitting. Has about 25 degrees of varus remaining. Wolff treatment begun to-day.

May 15.—Has had redressment once a week for the past seven weeks. Condition of varus entirely overcome.

CASE V.—Robt. C., age nine. Diagnosis; Right equino-

varus, with well marked pes cavus. *March 17.*—Had achillotomy, fasciotomy, and twisting with Thomas' wrench.

April 1.—Foot partially corrected as to both cavus and varus, about 30 degrees of varus remaining.

July 20.—Condition of varus corrected; some cavus still present. Has had redressment bi-weekly for six weeks altogether; had to discontinue treatment for six weeks on account of an excoriation.

CASE VI.—Norman McG., age four and a half years. Diagnosis: Double equino-varus. Stands on outer border of left foot, with about 45 degrees of inversion; right, about 25 degrees of inversion. *July 15.*—Has achillotomy, plantar fasciotomy, and twisting with Thomas' wrench of both feet.

August 26.—Has 35 degrees of inversion of right, and 15 or 20 of left. Wolff method begun to-day.

September 9.—Deformity of right corrected at four sittings.

September 15.—Left corrected at eight sittings. (See photograph before and after treatment.)



CASE VI.—Before Treatment.

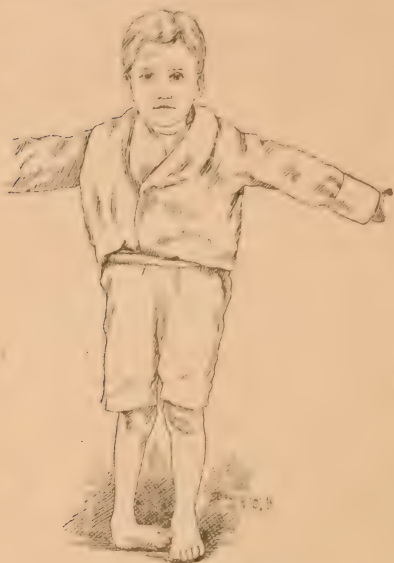


After Treatment.

CASE VII.—Roland B., age four and a half years. Diagnosis: Right equino varus. Has had no treatment.

August 30.—Foot rests on outer border; over cuboid bone is a callous, size of a silver quarter. Toes point directly across to inner border of opposite foot. Wolff treatment begun to-day.

October 1.—Inversion of foot corrected; has had redressment tri-weekly, thirteen sittings. (See photograph before and after treatment.)



CASE VII.—Before Treatment.



After Treatment.

CASE VIII.—Chas. P., age eight and a half years. Diagnosis: Double equino-varus. Had double achillotomy when three years old; was treated at Roosevelt Hospital for one year when three years old. *June 13.*—Walks on outer border of feet, with toes pointing across to opposite foot; feet are inverted to a right angle. Has astragalotomy of left foot, and an open incision on inner side of foot. Right foot has achillotomy, fasciotomy, and twisting with Thomas' wrench.

August 9.—About 45 degrees of inversion of each foot remains. Wolff method begun to-day, taking right foot first.

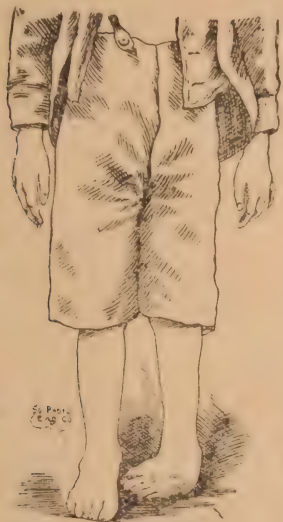
September 20.—Deformity of right foot corrected at eight sittings.

October 15.—Deformity of left foot corrected at nine sittings.

CASE IX.—Andrew T., age nine years. Diagnosis: Left congenital equino-varus. *Has never had any treatment.* Stands on outer border of foot, with foot inverted at right angle at medio-tarsal joint. (See photograph.)

September 13.—Wolf treatment begun.

October 16.—Deformity of foot corrected. (See photograph.) Has had redressment three times a week for past four weeks.



CASE IX.—Before Treatment.



After Treatment.

The treatment of these cases has necessitated a great deal of patience, perseverance and labor; but, when such results as have been shown can be obtained in so short a length of time, without the use of either an anæsthetic or the knife—consequently, with no risk of an operation—one should surely feel well repaid.

As it is well known that these deformities all have a tendency to a rapid recurrence when left unprotected, the importance of an over-correction, before discontinuing the treatment, cannot be too strongly urged. Convert the equino-varus into a slight degree of calcaneo-valgus, and then hold it there sufficiently long for the new position to become permanent. Surely there can be no more effectual way of doing this than is recommended above. The cheapness of this method as to apparatus is another great recommendation in its favor.

1305 H Street, N. W.

ART. V.—Tuberculosis in Animals—Its Prevalence, its Dangers, its Prevention.. Facts, Figures and Deductions.*

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So much has been written on tuberculosis that I fear an attempt on my part to contribute anything new will result in an abortive effort. That the subject is, however, an important one all will admit, for there is probably no warm blooded animal that shows perfect immunity against this terrible disease.

That it is readily transmitted from one animal to another, and from the lower animals to man—hence a highly infectious disease—no one can authoritatively deny.

That it furnishes both the medical and veterinary profession with a serious problem to solve, is an accepted fact.

That it affords the State Legislatures an opportunity to do *something* for the benefit of their constituents, is a fact yet to be impressed upon the minds of those honorable bodies; for without the proper legislation, the veterinary and medical profession can do practically nothing toward stamping out the disease. We can advise, and continue to advise until Gabriel blows his trumpet; but it does no good with the majority of the masses, unless we have the power to put our advice into practice.

That the aid of the State authorities is needed to check the ravages of this disease, I shall attempt to show later on in my paper.

No doubt you are all familiar with the *history of tuberculosis*; but, to bring the subject more vividly before you in all of its phases, I shall detain you for a few moments with the views of our ancestors, and, in so doing, endeavor to demonstrate that those who are now advocating the infectiousness of the disease, and calling for public aid, are

* Read before the Virginia State Veterinary Medical Association in Norfolk, Va., August 15, 1894.

not doing so without a firm foundation upon which to base their arguments.

Tuberculosis has been known, although imperfectly understood, since the days of Moses; for, in the laws of Moses, we find that the flesh of tuberculous animals was discarded as unwholesome. In the ninth century, European people made laws which forbade the use of tuberculous meat. These laws were continued, or made more rigid, as late as 1558. In 1702, the disease was coupled with syphilis, and, hence, named "the French disease." About this time, or soon after, Germany made stringent laws compelling the slaughter of all tuberculous animals. But in 1783, it was shown that the two diseases had no connection with each other, and the strict regulations were at once relaxed.

From the above, it would appear that the former regulations were made solely through the fear that tuberculosis was of a syphilitic nature, and that, when this was disproved, all fear of the disease was banished. We cannot, however, but believe that, among the more learned class of people, this was not the case; but, among the public in general, this secondary idea had become so firmly impressed upon their minds that the rigid laws could no longer be enforced.

Up to the year 1783, the *contagious theory of tuberculosis* had many advocates, although the balance of opinion was on the opposite side. Even those who affirmed the contagiousness of the disease were in the dark as to its true cause. Some fault in the animal's hygiene was, as a rule, the attributed cause, the nature of which was not known. The first intimation that some irritating or *infectious* element was contained in the milk of cows suffering with the disease is due to Gerlach, late Director of the Royal Veterinary Institute of Berlin.

Villemin, Klebs, Orth, Buhl, and others demonstrated, during the period from 1857 to 1864, beyond a doubt that the elements from tubercular diseased organs contained some peculiar infectious material, which, when inoculated into other animals experimentally, was capable of produc-

ing the same disease. As a result of these experiments, Villemin announced, in 1864, that tuberculosis was a specific disease, due entirely to some specific cause from without the animal organism. The true cause of the disease, however, remained shrouded in darkness until Koch, in 1882, announced his discovery of the *bacillus of tuberculosis*. Since that time all of the experiments have served to strengthen Koch's statement that the *bacillus* is the sole cause of tuberculosis.

The manner in which the disease spreads from one animal to another, and from the lower animals to the human family, and *vice versa*, is an interesting one and demands our serious consideration. As all, or nearly all, warm blooded animals are subject to the disease, the germ must necessarily have a large number of carriers.

Before entering into a discussion of the manner in which the disease is spread, it may be stated that the germ may enter the system of the healthy subject through the respiratory, digestive and sexual organs and skin. It may also enter the unborn fœtus through the dam. It most frequently, however, enters the system through the digestive and respiratory organs.

When the infection is through the *respiratory organs*, the subject must be brought in close contact or housed with others suffering from the disease.

Not so with those that are infected through the *digestive tract*, for the germ may be carried for miles by other smaller animals. Since rats may be infected, they may become carriers of the bacillus; feeding in the feed troughs and mangers as they do, one tuberculous rat may easily infect a whole herd of cattle by contaminating the food of these animals. Cats which have slept in the mangers of tuberculous animals have been known to contract the disease. They, too, may be a common carrier of the bacillus distributing them alike among the human family and the lower animals. It is also reasonable to suppose that the cat may contract the disease from the human subject, and from them communicate it to the lower animals.

It was formerly supposed that dogs showed perfect immunity against the disease, but recent experiments have demonstrated that they are by no means uncommon subjects. They, therefore, may distribute the disease far and wide. The earth worm is also said to distribute the disease by bringing to the surface the germ from tuberculous animals which have been buried. Buzzards, though possibly not susceptible to the disease, may also distribute the germ in every direction from the carcasses of tuberculous animals, which have been allowed to lie on the surface of the soil. Diseased cattle may infect the pastures, barnyards, springs, etc.

These are all possible sources of contaminating the food and water consumed by the healthy individual, thereby indirectly infecting animals which, in some instances, may be miles away from the primary source of infection.

Infection *through the skin* is rare, and usually takes place through an abraded surface.

Infection through the *generative organs* is also comparatively rare, and is the result of allowing healthy animals to be bred to those suffering from genital tuberculosis.

Infection of the unborn fœtus through the dam may occur, but in such instances abortion is the rule—the fœtus rarely being born alive with tuberculosis. An abortion in a human subject, whose sputum contained a large number of the bacilli of tuberculosis, was recently reported to the writer by a local physician.

That *animals may contract the disease from tuberculous attendants* is also a question worthy of consideration. The prevalence of tuberculosis in the lower animals is alarming, and if statistics were carefully collected, it would be seen that the disease is much more prevalent in the human family than is generally supposed by the public. In the human family, the average ratio of deaths from tuberculosis to the total mortality is 14 per cent., while in some localities it runs as high as 33 to 50 per cent. Prof. Law, of the Cornell University, says: "If the 5,490 deaths from tuberculosis which occur every year in the city of New

York could be brought together in an epidemic lasting but one week, no smallpox, cholera, nor yellow fever scare would approach the panic which would thus be created." Again, "If we take the whole civilized world, and compare with the tuberculosis mortality all the accumulated deaths from the war, famine, plague, cholera, yellow fever, and smallpox, we find that the latter are comparatively very insignificant." Yet, in face of such facts, comparatively nothing is done to stamp out or check the ravages of this terrible disease.

If in the lower animals—cattle, especially—the disease was one that produced death in a short time, the mortality in one year would be greater than that of all other diseases combined. Exact statistics are wanting to give the accurate percentage of tuberculous animals in our herds—due to a lack of systematic professional inspection of all live animals and those slaughtered for food.

That the disease is more prevalent among the bovine family than any of the other lower animals is probably due to the fact of their being more closely housed, more highly fed for dairy purposes, and receive less exercise. All domestic animals, however, take the disease readily enough when inoculated with it. In dairy cows and breeding cattle, the disease is much more prevalent than in other cattle, due to the fact that their vitality is lowered by high feeding, lack of proper exercise, and being overcrowded in poorly ventilated stables. It is said that in some such herds the percentage of tuberculous cattle runs as high as 98, while in others no trace of the disease exists. These latter have been fortunate enough not to have had a tuberculous subject introduced in their midst.

The following figures will give some idea of the ratio of *infection in the different sexes*. Although the statistics are probably somewhat inaccurate, it will be seen that cows head the list, oxen second, bulls third, and yearlings and calves fourth. The fact that steers are usually allowed to run at large, which lessens the frequency of exposure, and that they are usually marketed at from two to four years of age, explains why they are less frequently affected than

cows. Bulls, too, are usually kept by themselves, and are, therefore, not so frequently exposed. The disease being more prevalent in older animals, accounts for the low percentage in yearlings and calves.

Germany furnishes us with the following statistics from a number of its abattoirs: Cows, 6.9 per cent.; oxen, 3.6 per cent.; bulls, 2.6 per cent.; calves and yearlings, 1 per cent.

In Leipsic, tuberculous cows were 26 per cent.; oxen, 19.5 per cent.; bulls, 15.4 per cent.; and calves, 9.3 per cent.

Amsterdam shows a steady increase of the disease for the last six years as follows: In 1888, out of a total number of 28,016 animals slaughtered, 495, or 1.76 per cent., were tuberculous. In 1889, out of a total number of 26,225 animals slaughtered, 793, or 3.5 per cent., were tuberculous. In 1890, out of a total number of 22,813 animals slaughtered, 755, or 3.3 per cent., were tuberculous. In 1891, out of a total number of 23,392 animals slaughtered, 1,248, or 5.3 per cent., were tuberculous. In 1892, out of a total number of 25,454 animals slaughtered, 1,332, or 5.3 per cent., were tuberculous. In 1893, out of a total number of 28,342 animals slaughtered, 1,491, or 5.26 per cent., were tuberculous.

If accurate statistics could be gotten in this country, no doubt they would be equally, if not more, alarming than the above.

The prevalence of tuberculosis in the human family has been mentioned above, and the question may be asked: Why is the mortality so great in the human family? For an answer, one only needs to consider for a moment that as a rule there are no sanitary precautions taken by families who have tuberculosis in their midst; and unfortunately by many of their family physicians. Not long since, the writer was informed of a family of mountaineers who lived in a little log hut, a member of which had tuberculosis, and expectorated on the walls, floor, and in fact wherever it was most convenient. The result is that there are now two or three more patients in the same family. If there was any

doubt about the disease being contagious, this one instance is ample proof of the affirmative.

There is no doubt but what a large per cent. of the cases of tuberculosis in man are due to the use of the flesh and milk of tuberculous animals. It may be safely stated that no less than 50 per cent. of the cases are developed from this source, which can only be avoided by means which I will suggest later.

The danger of using tuberculous meat and milk is two-fold, viz.: that of contracting the disease; that of aggravating the disease in those who are already affected.

It is a well-known fact that the *milk of tuberculous cows is much more dangerous than the meat*, since the milk is usually consumed in the raw state. Rare meat, however, may contain the live germ, and even though the meat may be cooked done, the temperature may not have reached a point sufficiently high to destroy the germ in all parts of the meat.

It was formerly supposed that salted meats were perfectly safe for consumption, but later experiments have shown that the germ may survive as long as thirty days. As the salt does not penetrate all parts of the meat alike, some of the organisms may survive even longer.

Our European friends recommend sending tuberculous cattle to the butcher if not poor in flesh. This practice cannot be too strongly condemned, for although the lesions may be local, the germ may be in all parts of the body, since it is circulated by the blood and lymph. It may be stated in this connection that the germ is necessarily circulated in the system for some time before general tuberculosis takes place. The mere fact then that the visible lesions are local, is no indication that the flesh and milk of such animals are free from the germ. That the milk of tuberculous animals is exceedingly dangerous is demonstrated by the fact that a large majority of all the deaths of bottle-fed infants in the large cities are due to some form of tuberculosis.

All germs that cause disease do so by the poisonous products of their growth and multiplication within the system.

In tuberculosis, then, it is this chemical poison that causes the lesions, and the more rapidly this poison is formed, the more marked will be the symptoms, and the sooner will the disease prove fatal. The system, as well as the milk, of tuberculous animals contains, to a degree corresponding to the extent of the disease, a quantity of these toxalbumins, which, when consumed with the flesh and milk by tuberculous people, add just so much more poison to the patient's system, thus converting what may be, in many instances, local tuberculosis into a general form of the disease, and possibly cutting short the life of the individual a number of years. This theory is self-evident when we stop to consider the manner in which Koch's tuberculin exerts its influence on tuberculous subjects when injected into the system.

The *symptoms* of tuberculosis are too well known to call for any discussion in this paper.

The *treatment* is of but little importance to us as veterinarians, as the only proper course to pursue is to destroy all animals as soon as found to be tuberculous. With the medical profession the matter must be viewed from a different standpoint, for in their patients treatment must be attempted.

Many remedies, both new and old, have been tried but all have failed.

Dr. Yeo, of the King's College, London, and others have great faith in the use of creosote by inhalations, and large doses by the rectum, claiming to have gotten good results when the treatment was applied in the early stages of the disease.

Drs. Bertin and Picq claim to have effected a cure in a limited number of cases by injecting goats' milk when all classical treatment had failed.

Prof. Liebreich, of Germany, claims to have successfully treated a few cases by the hypodermic use of cantharadate of potash.

Aristol in olive oil has been used hypodermically—its advocates claiming a certain degree of success. The so-

called "Amick treatment," which, at present, is a secret, originated in Cincinnati, but, from reports of local physicians, has no curative effect.

The "*Modern Medicine and Bacteriological World*" quotes an article from the "*Pacific Medical Record*" in 1892, announcing a new chemical substance which Klebs prepares from Koch's tuberculin, and which he names *tuberculocidin*. It is nothing more nor less than tuberculin with its injurious elements eliminated, and, at the same time, retaining its curative properties. It causes no elevation of temperature when injected into the system. In fact, it is claimed that large doses reduce the temperature. Out of a number of human subjects treated, Klebs claims to have cured 18.6 per cent., improved 60 per cent., and no improvement resulted in 18.6 per cent.; deaths 2.6 per cent. This is really a very good record, but as no further announcements have been made, we may reasonably suppose that further experiments with this substance have not proved satisfactory.

When Koch announced his discovery of tuberculin in 1890, we were, for a time, led to believe that a cure for tuberculosis was at last at hand. Disappointment, however, was the result. In experiments conducted with this substance, a marked elevation of temperature was noticed when it was injected into the system of tuberculous subjects. In healthy subjects, no elevation of temperature was noticed. In view of this fact, *tuberculin* has been extensively used since 1891 as a *diagnostic agent* in the lower animals. For this purpose, its value cannot be over-estimated. The manner in which it acts as a diagnostic agent is an interesting one and demands a few moments of our time.

I have stated before that the system of tuberculous patients is charged with the toxalbumins of the germ of the disease. This product of the germ is nothing more nor less than tuberculin. The addition of a small amount of artificially prepared tuberculin to that already contained in the system, causes a temporary fever, or reaction, in from six to twelve hours after the injection. The reaction varies from one to six degrees above the average normal tempera-

ture, and lasts from twelve to fourteen hours. In healthy subjects, the quantity of tuberculin injected is so small that the animal is not affected by it. Reports are unanimous in support of this statement.

That *this new method of detecting the disease in all of its stages is an extremely delicate and accurate one*, will be seen by the following experiments:

In April, 1893, tuberculin was used on the entire herd of cattle at the [Blacksburg, Va.] Agricultural Experiment Station, with the result that only one animal gave the reaction. This animal was a thoroughbred shorthorn cow, in excellent flesh for beef, for which she would have been sold in another week, as she was worthless as a dairy cow. The elevation of temperature above the normal was 1.8 degrees. A post mortem examination revealed *intestinal tuberculosis*, with two large tubercles on the liver.

In July, of the same year, by the request of Capt. C. E. Vawter, of the Miller School, and with the assistance of Prof. Tinsley, I used tuberculin on the entire herd of milch cows belonging to the above-mentioned school, with the result that one cow gave a reaction of 4.2 degrees. An autopsy in this case revealed *intestinal and pulmonary tuberculosis*. This cow was a high-grade Jersey, and was in good milking condition, showing no outward signs of the disease.

After the test was made on the College cattle, a "scrub" milch cow was purchased and allowed to run with the other cattle on the farm. During the latter part of winter, this cow suddenly died of acute tubercular pleuritis and pericarditis. To ascertain the result of bringing this diseased animal into a healthy herd, the tuberculin test was repeated on the entire herd of seventy-two head of cattle last June, with the result that six animals gave the reaction, as follows:

Thoroughbred Holstein cow,	3	years old,	reaction,	2	degrees.
Native	"	3	"	"	1.1 "
Thoroughbred Jersey	"	5	"	"	1.2 "
"	Holstein bull,	3	"	"	2.4 "
"	Guernsey heifer,	2	"	"	1 degree.
"	Jersey bull calf,		"	"	1.1 degra.

At the time of these experiments, the general condition of all of these cattle was apparently good, with the exception of the Holstein cow and bull. The bull had frequent attacks of diarrhœa, and would not fatten with the best of care. The cow had recently calved, and had not done well since.

As the reaction in all of these animals (except the bull, which had an abnormally low temperature before injection), was slight, and all but one were thoroughbreds, it was thought best to separate them from the herd, and make a second test.

It may be stated in this connection that the temperatures of these animals, both before and after injection, were submitted to Dr. Salmon, of the Bureau of Animal Industry, and that he reported none at all suspicious, except the Holstein bull.

The animals were kept separate, however, and tested the second time a month later, with the result that the Holstein bull was the only one that gave any trace of a reaction, the elevation of temperature in his case being 1.3 degrees. As a result of this test, the animals were allowed to mingle with the balance of the herd until June 15th, when my attention was called to the Jersey cow, which had, since the test, lost flesh rapidly, and developed an aggravating cough. Suspecting tuberculosis, she was at once destroyed, and an autopsy held, which revealed pulmonary and intestinal tuberculosis, with enlargement of the lymphatic glands of the mesentery. In fact, this was one of the worst cases of tuberculosis that I have ever had an opportunity to examine after death.

On June 22d, the bull and native cow, which showed a reaction of only 1.1 degree on the first test, and none on the second, were also destroyed. The autopsy on both of these animals revealed intestinal tuberculosis with enlargement of the internal lymphatics.

The three remaining animals have not yet been slaughtered, but are isolated, and will be tested with tuberculin later in the fall, and if they show the slightest reaction, they will be slaughtered at that time.

The question as to *what elevation of temperature constitutes a reaction* is at the present time an open one. I have seen no cases reported where the animal was condemned with a reaction of only one degree, unless the general symptoms were prominent enough to make a diagnosis possible by a physical examination.

Dr. Conrow, in a communication to the *Veterinary Magazine*, January, 1894, reports the destruction of one case that showed the physical signs of tuberculosis, and, with tuberculin, gave a reaction of 1.4 degree, but, upon holding a post mortem, no tubercles were found. Dr. Conrow does not state whether or not a careful examination of the bones and *all* other tissues of the body was made. If such an examination had been made, it is more than probable that tuberculosis, in some one of its many hiding places, would have been found.

From my own experience, I am led to believe that any elevation of temperature that continues over two or more readings, above the highest normal variation, during a period of twelve hours before injection, is diagnostic of tuberculosis; and that if we expect to completely eradicate the disease from our herds, we must take this as a standard. It would be much more profitable to occasionally destroy a healthy animal than to let one that is diseased escape, even though we expect to repeat the test in six months' time.

The *following conclusions* may be drawn from the various reports on the use of tuberculin:

1st. Tuberculin is of no value as a curative agent, since, in both man and beast, whether injected hypodermically or taken into the system with tuberculous milk and meat, it converts latent into acute tuberculosis.

2nd. As a diagnostic agent in the lower animals, it is exceedingly delicate and almost invariably accurate in the hands of experts.

3rd. The method of its use, as published by the "Bureau of Animal Industry," Washington, D. C., is more accurate than any other method yet in use.

4th. The system acquires a certain tolerance to the action

of tuberculin after the first injection—thereby making a second test unreliable, without the intervention of several months.

The laws necessary to control the disease in the lower animals and lessen the mortality in man may be briefly stated as follows:

1st. The most important of all, the establishment of a State Board of Health, one member of which shall be a qualified veterinarian.

2nd. The appointment of a qualified State veterinarian, who shall be an *ex officio* member of the State Board of Health, and work under its direction.

3rd. A liberal appropriation placed at the disposal of these officers, in order that they may effectually carry out their work.

4th. The establishment of public abattoirs, and compelling the slaughter of all animals for meat at these places.

5th. Providing for veterinary inspection of all animals slaughtered for meat. Also veterinary inspection of all public dairies.

6th. The provision of some means to compensate owners of all condemned animals.

7th. A law empowering the State Veterinarian to order the destruction of all condemned animals.

8th. The provision of county hospitals for indigent tuberculous people.

9th. Compulsory disinfection of all premises that have been occupied by tuberculous people or animals.

10th. Compelling the disposal of the carcasses of all tuberculous animals by cremation.

11th. Prohibiting tuberculous people from attending public gatherings in closed buildings.

With these laws in force, tuberculosis can be practically stamped out. Science is arrayed for the battle; all that is lacking is the declaration of war on the parts of the States and Government.

ART. VI.—Difficulty Yet Importance of Recognizing Chancre of the Os Uteri.

By H. R. COSTON, M. D., of Fayetteville, Tenn.

The location of a syphilitic chancre upon the os uteri, I believe to be much more common than is usually supposed. I have known a physician to examine the external genitalia of a prostitute and pronounce her sound—without ever introducing a speculum to examine the uterus or vagina—while I was at the same time treating a gentleman for syphilis, who attributed the disease to having cohabited with this very woman. An examination by myself, a few days afterwards by means of a bivalve speculum, revealed a typical Hunterian chancre of the os uteri. She, also, at this time, had a fine macular syphilide extending over almost the entire body.

Another case in which I was very much troubled to find the initial lesion, was the following:

Aida P., public prostitute, æt. 19. I was asked to see her April 21st. She had an eruption which was supposed to be measles, but which I found to lack the principal characteristics of fever, suffusion of eyes, etc. Hence, at once, I instituted search for a chancre. This I found to occupy the posterior lip of the os, shielded from view by the anterior lip, which was rather long. Had it not been for the distinctness of the lesions of the skin, I should have overlooked this chancre, but she was covered from head to foot thickly by a typical maculo-papular syphilide.

"The chancre in this position passes, as a rule, unnoticed, owing not only to its own indolence, but also to the marked nonsensibility of the parts."*

This is in perfect accord with my experience, and I cannot do better than quote the next sentence from the same article (*loc. cit.*): "On this account, the number of instances of chancre of the cervix noted in medical literature is far below what it should be."

For a physician, especially who is, so to speak, the "young man's doctor," to pronounce a prostitute sound, is a very

* Fuller, Morrow's System Gen. Urin. Dis. Syph. and Dermat., Vol. II., Page 462.

grave affair, because it subjects many to the danger of a loathsome disease, and himself to the just contempt of his friends, should he, through carelessness or ignorance, be the means of causing them to cohabit with a syphilitic woman, and themselves become infected. Not only this, but posterity suffers—society at large suffers.

Taylor* calls attention to the irregularity of the lesions in women, and states that they are frequently so ephemeral in their nature that they come and go without the knowledge of the bearer.

The diagnosis of chancre of the os uteri, however, may be accomplished, if one will exercise due care in the examination and history of the case. The sore is usually covered with a gray, tough, adhered secretion, which, when wiped away, leaves a reddish surface, deeper in color than the normal mucous membrane. This may be distinguished from an ordinary erosion of the cervix by its hardness and by its obstinacy to treatment other than syphilitic (this does not hold good to such an extent in women as it does in men), and by the fact that it bleeds less readily than simple erosion. Also, if you make use of the method of confronting the woman and man, and can be sure the man has had connection with but the one woman, you can be positive as to the nature of the lesion.

When one meets with a case of erosion, or ulcer, or papule of the os or cervix in a prostitute, he should at once forbid the further plying of her vocation until it is thoroughly healed. The enforcement, however, of such commands is well nigh an impossibility; and the reputation that she is syphilitic, which she will soon get by the sad experience of some of her lovers, and therefore enforced idleness, is all that will cause the majority of them to cease their vocation and take treatment.

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ART. VII.—Notes on the Treatment of Diphtheria and Croup.

By R. B. JAMES, M. D., of Danville, Va.

An article in the April number, 1894, of the *Virginia Medical Monthly*, by Dr. Joseph Jones, of New Orleans, on *Diphtheria in New Orleans, etc.*, reminds me of some notes taken, during a recent stay in New York, on the treatment of diphtheria and croup in the wards of the Williard Parker Hospital. This, as is well known, is the hospital for contagious diseases, and is under control of the Board of Health of New York City.

This plan of treatment of diphtheria is so simple and the results are so much more satisfactory than those usually obtained, that I venture to give a short summary of it, which I think will show that we have made some advances in the treatment of the disease. Simplicity of treatment indicates one step forward at least—*i. e.*, we know what does not do good, and are thus enabled to leave off much that is useless and injurious.

The necessity for keeping the fauces, pharynx and nasal fossæ as nearly aseptic as possible, is well understood, and this is the key to the method of treatment adopted at the Williard Parker Hospital. This is done by irrigation. An ordinary fountain syringe with a long nozzle is used.

The child is placed on a table and wrapped in a blanket, thus securing his feet and hands—the blanket being pinned with safety-pins. The child, with his head on a small rubber-covered pillow, is turned on his side. The nozzle of the syringe is well introduced into the pharynx. The reservoir of the syringe is placed sufficiently high to give considerable impetus to the jet of fluid—say five or six feet above the table. The fluid, when injected, passes from the mouth loaded with membranes and detritus, and is caught in a basin on the floor, being guided there by rubber cloths properly placed. The nasal cavity is also drenched by placing the nozzle in the anterior nasal openings. This irrigation is done every hour at first, and as the case progresses, at longer intervals.

The solutions used are of common salt, or of boracic acid ; this for both nose and throat. If the deposit is particularly septic and abundant, peroxide of hydrogen* (1 to 4 of water) is used *for the throat, but never for the nose*. The peroxide irritates and excoriates the mucous membrane of the nose, forming clots, and thus effectually stopping the nasal passages.

In the way of internal treatment, milk or milk and brandy are given, and if the case be especially badly poisoned and asthenic, chloride of iron is also used. No other drugs.

As to chlorate of potash, which is almost universally prescribed in compounds with iron for diphtheria, I would suggest that, owing to the fact that the kidneys are especially liable to irritation and congestion in diphtheria, this drug is not free from danger, and may do much harm, for it is a powerful irritant to the kidneys, as is well known. I feel sure that I have seen cases of suppression of urine in diphtheria for which this drug was partly responsible.

To sum up: Thorough irrigation of the throat and nose every hour, with milk and brandy, and sometimes iron internally, is the treatment for diphtheria to-day. After seeing case after case laying for two or three days at times in an almost profound and hopeless stupor, and yet recover, I am prepared to accept this as the best as well as simplest treatment for this dreaded disease, and am inclined to think it a most decided step in advance.

In the *croup* wards, the treatment was also most simple. Calomel fumigations every half hour if cyanoses is increasing, together with steam irrigation, milk and brandy internally, and intubation, when the fumigations and inhalations failed to relieve.

In all the realms of surgery, there is nothing more beautiful, or in most cases productive of more immediate relief, than the operation of intubation if done by an expert ; but if done by a novice, it is a butchery and productive of disaster. The abuse of this most valuable operation by those

*Marchand's is the standard preparation.—Ed.

who do not know how to perform it is pitiable, and in many instances has brought it into bad repute. Not every man who can make an accurate demonstration with the laryngeal mirror, or who is possessed of an O'Dwyer set of intubation instruments, can properly perform this operation.

Perhaps in all New York there are not more than eight or ten men who are thoroughly competent intubationists; and yet hundreds of new-fledged practitioners purchase an intubating set, and most of these are speedily brought to the conclusion that intubation is not a success. But in the hands of those competent to perform the operation, intubation ranks as one of the great advances of the nineteenth century.

ART. VIII.—The Prevention of Blindness—of Ophthalmia Neonatorum, and of Defective Eysight, by Sanitary Legislation.*

By BENJAMIN LEE, A. M., M. D., Ph. D., of Philadelphia, Pa.,

SECRETARY OF THE STATE BOARD OF HEALTH OF PENNSYLVANIA.

In considering the individual with reference to his value to his community and to the State, it will readily be admitted that there are many kinds and degrees of imperfect or perverted vision, which, while they do not make the victim an actual burden upon the State or upon his kinsfolk, do seriously impair his usefulness, and make him a less productive member of the social hive than he would be with perfect lenses, normal accommodation, and humors of unimpaired translucency. Not simply the fact that he will perform with greater difficulty all operations requiring keen sightedness, but the additional fact of the long train of nervous disorders which are induced by the exhausting efforts of the imperfect eye to meet the requirements of even the every-day duties of life—to say nothing of those of skilled workmanship—must be taken into account in

* Read before the American Academy of Medicine at its Nineteenth Annual Meeting, at Jefferson, N. H., August 28th, 1894.

measuring the disability thus caused. The day has gone by when the myope could boast of the strength of his eyes. The dictum is now well established that the near-sighted eye is an imperfect eye, and almost invariably, often at some critical period, when its owner can least afford to dispense with its services, it sooner or later develops its unreliability.

I do not forget the wonderful advances made in ophthalmology in the discovery of errors of refraction and accommodation and of the mechanical means for their correction. In fact, as I look back to the condition of that science when I began my medical studies, and its then helplessness in view of such disorders, and reflect how many sufferers are now restored to comfort and usefulness who would at that time have been stranded on the shores of a useless and often agonizing invalidism, I am filled at once with regret and with gratitude—with regret that such an incalculable amount of relievable suffering went so long unrelieved; with gratitude that such amazing relief can now be afforded and by means so apparently simple. This seems to me indeed one of the most brilliant achievements of modern medical science. But, even in this work of relief, energies are expended and inventive genius exhausted in fields which are simply reparative and not productive. So that, even from this optimistic standpoint, there is still a loss to the State.

It would be ludicrous, were it not mournful, to note how ready we are, in our organized capacity, to provide relief for "defectives," and yet how slow to adopt measures to prevent their existence. Our law-givers disclose a mental myopia of a high grade in their observation of social conditions. The State will not do its full duty until the health officer and the sanitary authorities take an active supervision of the individual from the first moment of his existence to the time when—having lived out his hundred years, in the full possession of all his faculties, the use of which he has enjoyed to the full, while at the same time he has added to the wealth of the country and the happiness o

his fellows—his body, simply yielding to the inexorable touch of time, shall relinquish its relaxing grasp upon his happy spirit and set it free for higher flights.

Beginning, then, with the new-born child, is there any *cause of blindness which could be removed by the interposition of the law?*

In the State of Pennsylvania, we are confronted by the startling fact that, while the increase of population during the decade ending with the year 1880 was 21.6 per cent., the apparent increase in blindness was 119.18 per cent., showing that this disability had increased more than five times more rapidly than the population. Allowing its full value to the probable greater fullness and accuracy of reporting during the later decade, there is still in this result food for the most serious reflection. The inquiry naturally suggests itself whether a possible cause can be assigned for this lamentable disproportion.

One factor is certainly deserving of consideration, and that is the fact that a large proportion of the increase of population was due to immigration. Owing to the extensive mining, iron-working and railroading interests of the State, the great mass of these immigrants were either Slavs or Italians. Now, as is well known, among these peoples a physician is rarely called upon to preside over the act of parturition. The entire care of the new-born child is left to the midwife, nurse, or neighbor. Couple this with the now well recognized fact that the most important factor in the production of blindness is *ophthalmia neonatorum*; and here may we not have a partial clue to the distressingly rapid increase of this class of defectives? With reference to this last statement, the evidence is overwhelming. Fuchs found that among 3,204 cases of blindness collected from asylums in different parts of Europe, 23.5 per cent. were due to *ophthalmia neonatorum*. In the New York Institution for the Blind at Batavia, 23.4 per cent. of the inmates are there as the result of the same disease.

Horner has shown that, among 100 blind asylums in

different countries, the variation was from 20 to 79 per cent.—average, 33 per cent.

Hausmann gives the number in the asylum at Copenhagen, made blind by this disease, 8 per cent.; in Berlin, 20 per cent.; in Vienna, 30 per cent.; in Paris, 45 per cent.

According to the report of the Royal Commission on the Blind of the English Government, published in 1889, 30 per cent. of the inmates of the institutions and 7,000 persons in the United Kingdom have lost their sight from this cause. Professor Magnus, of Breslau, finds that no less than 72 per cent. of all who become blind during the first year of life are rendered so by purulent ophthalmia; and even of those who become blind before the twentieth year of life, it constitutes as much as 23.50 per cent. Looking at the subject in another way, he shows that, of 10,000 children under five years of age, 4.28 are blinded by purulent ophthalmia. In the blind asylums of Switzerland, the proportion who have lost their sight from this disease is 26 per cent.; in the asylums of Austria, Hungary and Italy, about 20 per cent.; while in Spain and Belgium it falls to about 11 or 12 per cent. An investigation into the causes of the blindness of 167 inmates of the Pennsylvania Institute for the Blind, made by Dr. George C. Harlan, of Philadelphia, developed the fact that fifty-five owed their affliction to purulent ophthalmia, and that more than half of these cases occurred in infancy. But nothing is better established than that ophthalmia of the new-born is an infectious and therefore a preventable disease. Whenever it is demonstrated that a disease is infectious, contagious, communicable from person to person, either by direct contact or through the medium of infected articles, it becomes the duty of the physician and the sanitarian to discover, if possible, the source and character of this infectious matter, and to devise means for preventing its transmission.

Ophthalmia of the new-born is an infectious disease, and can only occur after the infectious matter has come into active and somewhat prolonged contact with the conjunctiva. The noxious matter is in every instance derived from

an inflamed vagina (or urethra) or from another eye. In the great majority of cases, infection takes place from the vagina; and it is to be remembered that the disease is not caused by the secretion of a specific (gonorrhœal) catarrh only, but that it may be produced by the secretion of simple leucorrhœa, or at least by what is recognized as such clinically.

Formerly this disease was attributed to a variety of causes, such as injuries received by the eyes during birth, icterus, chilling of the body, too intense light, and so on, but these views are, of course, no longer entertained.

It is hardly too much to say that no one should become blind from this disease; not only because it is quite amenable to treatment, if this be instituted from the beginning, but because the disease itself can be prevented in most instances if those who have the care of mother and child understand the nature of the infection.

From the facts and figures above given, it will be seen that this is simply another way of saying that one-third of those who are now blind might have been saved from this calamity.

Other Fellows who are to address the Academy on closely allied subjects to my own, will be more capable than I to speak at length on the diagnosis and history of this disease, and the means to be adopted for its prevention and speedy cure before vision has suffered permanent impairment. Suffice it to say, that the latter should include attention to the nature of vaginal discharges during the later months of pregnancy; the employment of disinfectant vaginal injections during labor, *if necessary*; careful watching of the eyes of the infant for the first few days of life; and prompt abortive treatment of the first stage of the infection, should it unfortunately occur.

The Cr  d   method, which consists in carefully washing out the eyes with pure warm water, and then instilling two or three drops of a two per cent. solution of nitrate of silver, is usually sufficient to entirely abort the attack. Per-

fect recovery with an unimpaired cornea should reward the careful use of this treatment.

Dr. Lucien Howe, of Buffalo, has collected two lists of cases, the first showing the results obtained and published by different obstetricians who used no treatment for the eyes of 8,798 children born under their care. Among these 8.66 per cent. had ophthalmia in a greater or less degree.

The second list of 8,574 shows the results of the Cr  d   treatment. In these cases, there were only 0.65 per cent. In the lying in hospital of Leipsic, where Cr  d   instituted his method, the percentage fell from 7.5 to 0.5 per cent. The advantages of Cr  d  's method have been recognized by its official recommendation in Austria, Germany, Switzerland and France.

All this presupposes the attendance of a physician. While the State cannot compel every pregnant and parturient woman to have a medical attendant, it can insist that whenever the acting accoucheuse shall notice the slightest indication of inflammation of the eye or the lids, she shall at once notify a legally-qualified practitioner. The sanitary authorities should appoint physicians qualified to treat such cases, and should furnish such attendance free of expense in case of evident poverty. This is certainly as legitimate an expense on the public purse as free vaccination.

In European countries this is made obligatory. The State of New York has had a law in operation for more than three years requiring midwives and nurses to report every case of inflamed or reddened eyes, occurring within two weeks after birth, to some legally-qualified practitioner within six hours after discovery, under penalty of a fine or imprisonment, or both.

Deeply impressed with the importance of this subject, and feeling the responsibility which rests upon it to use the authority conferred upon it for the diminution of this serious disability, the State Board of Health of Pennsylvania has formally adopted the following regulation :

REGULATION V.—*For the Prevention of Blindness.*

Whenever, in any city, borough, village or place in this

State having no health authority of its own, any nurse, midwife or other person, not a legally-qualified practitioner of medicine, shall notice inflammation of the eyes or redness of the lids in a new-born child under his or her care, it shall be the duty of such person to report the same to some legally-qualified practitioner of medicine within twelve hours of the time the disease is first noticed.

And furthermore, that Board urgently recommends the passage of a similar ordinance by the councils of all cities and boroughs, having health authorities of their own, and the adoption of a similar regulation by such health authorities.

Further, the utmost care should be insisted on in all public educational, correctional and charitable institutions, particularly those occupied by children, to prevent the spread of contagious ophthalmia among the inmates. The common use of wash-basins and towels should be absolutely done away with, and any individuals so affected should occupy a separate dormitory, and not be allowed to mingle with the other children.

The State, however, has only done half its duty when it has relieved society of its burden of one-third of the cases of actual blindness heretofore existent. As already said, perversions and defects of vision as certainly, though not to as great a degree, interfere with the complete efficiency of the individual as absolute destruction of sight. Hence, the sanitary authorities should follow up the growing child from the cradle through adolescence to maturity. Although the eye of the child who has escaped ophthalmia in infancy is almost always good before attendance on school is begun, we find that a larger and larger per cent. of pupils have imperfect eyes (as we advance from the kindergarten to the high school) until, it is said, that among educated Germans no less than 67 per cent. have imperfect or defective eyesight. It is certain that these imperfections, in great measure, develop during the years of school life. If this is so, how are these imperfections caused?

1. By using the eyes too constantly at a short distance, as in reading and writing. Indian boys in the woods never

become near-sighted, but thousands of our school children do every year. At birth the eyes are adapted to be used at all distances, but by using them exclusively at short distances they soon become of value only for seeing objects close at hand.

2. By using the eyes too constantly and too long at a time. The eye is a very delicate organ; its parts become weary like the rest of the body. If overworked, serious results follow. The eyes should never be used when they ache, pain or smart, or when vision is weak or blurred.

3. By using them when weak from sickness. After the diseases of childhood, as measles, scarlet fever, whooping-cough, etc., the eyes are often left weak, and may be many months in recovering their full strength. If at such times they are much used in reading or studying, they are very liable to receive permanent injury. To this cause may be laid a large proportion of the defective eyes in our schools.

4. By using the eyes in insufficient light. Very many of our school-rooms are poorly lighted. Children cannot see in them on dark days. Rooms are made still darker by the use of curtains and blinds, which are often partly closed or drawn, and are placed at the top instead of at the bottom of windows. Windows are very often too small. They are often filled with flowers. If children study in the evening, it is too often with a poor light.

5. The print of school-books is too often fine and indistinct.

6. Especially is this the case with regard to maps, which are in the highest degree confusing and distressing to the vision.

7. Polished blackboards are both distressing and trying to the eye, the writing on them not being visible except from certain points of view.

8. The chalk-dust caused by the use of the black-board and of a dry cloth or eraser is very irritating to the eye.

In what way can the State prevent these deplorable results and preserve the normal vision of its people?

First, by taking pains that school directors shall be per-

sons of intelligence and education, and that positions on school boards shall not be the rewards of political tricksters and ward workers.

Secondly, by issuing instructions to school directors, as to the construction and maintenance of school edifices, especially with regard to the proper introduction of light.

Thirdly, by making positions on school boards open to women, who, as a rule, are more keenly alive than men to the necessity for guarding the health of children in every respect.

Fourthly, by compelling all applicants for positions as teachers to pass an examination on the hygiene of the school-room, and especially on the hygiene of the eye.

Fifthly, by printing and distributing, not only among these functionaries, but also among parents and the public generally, brief circulars of information and instruction on these subjects.

Sixthly, by obtaining the introduction into public prints and the daily press of articles of the same nature.

Seventhly, by diminishing the hours of study, especially in the primary grades, and diminishing the amount of reading and writing now required during study hours, by encouraging the use of object teaching and illustrated lectures.

Eighthly, by stamping out all eruptive contagious diseases, which are known to have inflammation and ulceration of the eyes, or asthenopia as their sequels.

Enough has, I trust, been said to demonstrate that the State has very definite and positive duties, not only for the prevention of the increase of this large class of defectives, but for the absolute abolition of one of its divisions, and the notable diminution of all.

1532 *Pine street.*

ART. IX.—**Elephantiasis Arabum Cruris—Report of a Case—Recovery without Resort to Surgical Means.***

By LARKIN W. GLAZE BROOK, M. D., of Washington D. C.

The disease for consideration to-night is one which, although rare in this latitude, is yet often met with, and, whenever seen, is looked upon with much interest. Unfortunately, statistics as regards its frequency with us are hard to collect; still, I have seen the condition five times within the last four years in the general dispensaries in connection with my hospital work. At any rate, I hope that the data which I have obtained, and the case which I shall show you, will prove of interest.

Synonyms.—Elephantiasis arabum; barbadoes leg; elephant leg; pachydermia.

History.—This disease was first studied and described by Rhages, an Arabian physician, in 850 A. D., and was called by him elephas arabum. Since then it has had many names. In later years, the Arabians speak of it as "dal til" and "yam leg." In Ceylon it was known as "galle leg," while on the Polynesian Island, "yava skin." In India it was designated "cochin leg," while in France, lepra elephantiasis.

Symptomatology.—Ernst Schwimmer, in Ziemssen's *Hand-Book of Skin Diseases*, tells us that it is a disease affecting the layers of the skin and the subcutaneous connective tissue. It may make its appearance in the form of an acute inflammation of the blood vessels, as well as the lymphatics, often leading to general œdema or erysipelas, running a characteristic chronic course.

Dr. S. C. Busey, in his treatise on *Lymph Channels*, in 1878, states that it is a local disease, affecting isolated portions of the body, more rarely symmetrical parts, usually confined to one or both legs, most frequently the right, the effusion being the result of an occlusion or obliteration of the lymph vessels.

* Read before the Clinico-Pathological Society of Washington, D. C., February 6th, 1894.

It affects mainly the lower extremities and the integument of the genital apparatus; it has also been seen upon the upper extremities, ear and face, but in these situations it is generally of the telangiectatic form.

In elephantiasis cruris, it generally begins as an acute inflammation of the integument of the leg, which resembles erysipelas in appearance; at this time, we may have an acute phlebitis. The part is generally painful, and the inflamed area may be streaked by the veins and lymphatics. There is also in the surrounding lymphatic groups the appearance of an acute lymphangitis. Constitutional symptoms are dependent upon the extent of local inflammation. After the acute manifestation, œdema of the part is most likely to supervene; this may only be apparent on careful examination at first, but by pinching up the integument, it will be found to be thickened. In place of the redness, we may now have a glazed appearance. Gradually this œdema increases, and when we make pressure over the swollen part, we rarely get the pitting and doughy sensation so often found in other œdematous conditions, but that of more resistance. In places it will be found hard, stiff, or board-like. The shape of the part is often greatly disfigured as the contour of the muscles becomes obliterated.

The swelling of the extremity may reach an immense size. In the case, reported by Dr. Bryant in his *Surgical Work*, in a woman, age 24, the affected thigh measured 27 inches, leg 23 inches, the leg being 9 inches greater than the sound one and the thigh 7 inches. In speaking of the treatment, I shall refer to this case again. The appearance of the part, when we find it greatly enlarged, varies. It may simply be shiny and tense, studded with nodules, or there may be local areas of eczema and at times, over prominences, ulcers; these are generally due to pressure, or may be caused by the bursting of the skin. The function of the affected part is greatly impaired. The weight may be so great that it is impossible for the patient to drag the limb around with them, and thus be confined to bed. As the case which I wish to report affects the lower extremity alone,

I will not speak of the disease in relation to the genital apparatus. From interest, however, I simply mention the case operated upon by Clot Bey, in which the scrotum, when removed, weighted 110 lbs., and that, although affected so seriously by the disease, his wife had given birth to two children, showing that the parenchyma of the part was in good condition.

Pathological Anatomy.—Rayer regards the enormous proliferation of tissue as the most important change, and first emphasized the fact that the fibrillæ of connective tissue appear in a number of layers placed one above the other. He also mentions the immense quantity of serous fluid present, the papillæ enlarged, epidermis thickened.

Virchow says that, upon section from the surface to the bone, the skin is hard, fibrous, callosity, of waxy consistence, in which there seems nothing but fat and muscular substance. The nerves are usually pressed upon, and may be found degenerated. The clear, yellowish fluid which exudes when the section is made is lymph. He also states that the accumulation of lymph is due to swelling of the glands during the early period of the disease, and that thus the functional activity of the vessels is impaired. Microscopically, the Malpighian layer often shows an increase of pigment, and the capillaries are dilated. Virchow also looks upon this condition as a diffuse connective tissue tumor, and therefore coming under the head of "fibromata."

Dr. Lewis, in speaking of this condition, thinks that the presence of the *filaria sanguinis hominis* is an important factor, since it is often met with.

Manson asserts that, when this parasite is found, the parent worm is discovered on the distal side of the glands; this is conceded to be her habitat, but her progeny travel along the afferent vessels, through the glands, and thus to the thoracic duct, and from there into the blood. But suppose an offspring becomes twisted upon itself and is arrested in the gland—being prodigiously prolific—they multiply rapidly, and, finally plugging up the vessels, they act as emboli.

Ziegler, in his text-book on *Pathological Anatomy*, describes the filaria, or, as it is sometimes called, the sanguiolenta, when mature, as a filiform worm, 8-10 cm. long, inhabiting the lymph, especially of the scrotum and lower extremities; obstructing these vessels, it gives rise to peculiar forms of inflammation, which end in elephantiasis or lymphangiectasis. They may involve the lymph vessels of any organ. They have also been found in the urine.

Manson states that they are spread by the mosquito bite. He thinks the worm only indigenous in very warm climates, and he positively asserts that this disease does not always have the same cause, but seems to be due to one of a number of factors.

Guiteras, in an article in the *Medical News* a short while ago, says that the worm generally (parent) measures 3 inches in length and $\frac{1}{100}$ of an inch in breadth, when seen in a lymph vessel, resembling a thread of catgut. In his observations, made at Key West, of three cases of elephantiasis, none showed the presence of the parasite. He thinks the filaria more apt to be followed by chyluria in North America. He states that the germ is found in the mosquito, and that the insect infects the water, especially when kept in cisterns, as is often the case in the South.

Which of the theories advanced is the correct one, I do not wish to say; but I will state that, in the blood examination made in the case which I shall report, no parasites or signs of malaria were found—only a marked reduction of the red blood corpuscles to about 3,000,000 and a decreased proportion of hæmaglobin.

Etiology.—H. G. Dalton, in an article written for the *Lancet* in 1846, states that the disease affects chiefly the dark races; especially was this the case in Barbadoes, where for a long time only the blacks were afflicted. The same disease, he says, has been found in the horse and dog. In Polynesia, it is looked upon as gout is in this country, and is supposed to be due to the drinking of their favorite beverage, called yava. It is found with remarkable regu-

larity in hot, dry countries; also in places where malaria is present in a marked degree.

Jas. Hendy, in 1784, in his work entitled "Glandular Diseases of Barbadoes," speaks of the frequency with which it seems to be associated with the intermittent form of malarial fever. He speaks of it attacking lower animals, and cites a case of a horse owned by himself who was attacked. Negroes are more often affected, he thinks, due chiefly to the fact that they are badly clothed, become over-heated at their work, drink freely of rum, and then throw themselves down upon the ground and remain there until sober.

"But there must be some other cause," he says, as the history of this country shows that the disease has not always been found, but has come and thrived since the trees have been cut away, and, following this, a scarcity of rain, giving them a dry, hot climate. He lays more stress upon this than upon the food and drink. The disease, he positively asserts, is rare in the surrounding islands, which have an abundance of trees.

Elephantiasis does occur more frequently in tropical countries; so that intense heat, with a decrease in moisture, has something to do with its continuance and development. Soil, atmosphere, drinking water, heredity, are all mentioned as etiological factors. The opinion held in India of late by many physicians, concerning the filaria, is important. It is a disease found at all times and in all countries. Anything causing inflammation of the lymphatics and skin vessels must be mentioned—circulatory disorders, thrombosis, ulcers of the leg, and even syphilis, by causing a thickening of the integument.

Prognosis.—Dalton, in his article referred to, says that it is the most formidable and inveterate disease mankind has ever experienced—inveterate as concerning the difficulty met with in alleviating, much less in its cure.

The inconvenience and annoyance to the patient, as may be easily perceived, is marked, and may compel the sufferer to remain in bed all the time. Fatal terminations are often due directly to the condition; inflammations in other locali-

ties, due to emboli or thrombi, may arise. In advanced cases, death from pyæmia may occur. Still, they may live on, disabled and diseased, for a number of years; this is generally the rule in the cases met with in this country. The disease, up to a few years ago, was considered incurable.

Treatment.—Hendy, in 1778, states positively that it is a local disease, and treated it with laxatives and scarification. He also applied bandages after the inflammation had subsided. Issues, he says, were useful in many cases; but he regards the planting of trees in that country as the surest way of curing the disease.

Those cases suffering in the beginning with marked inflammatory conditions should be managed as in all such conditions by means of rest, absolute and cold applications. The local abstraction of blood has been resorted to, by opening one of the large veins, but this plan has long been abandoned.

Frequent scarifications were also tried with better results. In late years, intermittent compression by means of the rubber, flannel or cotton bandages, have been used in these cases; rest in the horizontal position was considered most important. I could mention many of the old lines of treatment, such as inunctions, counter-irritation, baths, etc., but I wish to refer to the more modern management.

Amputation has been advised and done, but the results are questionable as the condition often returns in other localities.

Ligation has many advocates, and great enthusiasm has been expressed in its favor. Caruchon, of New York, ligated the external iliac artery in an advanced case with success; by restricting the supply of nutritive material, he obliterated certain vascular tracts.

The marked case referred to by Dr. Bryant was operated upon by this method, and within two months the condition had disappeared. Statistics collected, show that in sixty-nine cases reported, recovery followed in forty, improvement in thirteen, while sixteen remained unchanged.

Electricity by means of the constant current has been

used, but the result has not been gratifying. Thinking that the condition was due to nutritive changes, Morton has ligated or exsected the sciatic nerve.

Bryant considers operative interference very doubtful, as do such men as Sir Joseph Fayrer and Buchanan, of Glasgow.

Having hurriedly run over the most important literature of this condition, I now desire to call your attention to the case which I wish to report, and also to show you the patient, who has kindly offered to appear before this Society.

CASE.—M. W., æt. 45, married, white, came to the medical clinic of the Emergency Hospital, Washington, D. C., *April 14, 1893*. With great difficulty, she dragged herself into the room; looking up, I saw before me a small, badly nourished woman attempting to reach a chair, and moving with great exertion—the effort to reach the room from the reception-hall having almost exhausted her. I inquired into her condition, and she told me she was suffering from “dropsy,” and which was supposed by her doctor to be due to “kidney disease” or “change of life.”

I then carefully examined the extremity, and readily perceived why she moved with so much difficulty. On further examination, I diagnosed the case as one of elephantiasis arabum cruris. At this time, she was suffering from one or two small ulcers over the ankle-bones, posteriorly; these responded readily to simple treatment. From the toes to the middle thigh the leg was as hard as a board. No pitting on pressure, tense and shiny; at places the veins were very prominent, but there was no acute inflammation, but some redness, which had evidently succeeded an acute condition. I then inquired into her previous history, but found no hereditary cause. She has always been delicate, and twelve years ago gave birth to her only child; some time after this, she was operated upon for a lacerated cervix. Five years ago, she first noticed her right ankle becoming enlarged, and soon after her leg to the knee; following this, there was a varicosed appearance of the part; there was evidently some slight inflammation from her description, but nothing as severe as erysipelas. Since this time, the part has gradually increased in size, and within the last year has rendered her unable to move around. The swelling was not at all symmetrical, but the whole leg was shapeless; she was unable to wear a shoe, and had the foot and

leg wrapped in cloths. Her heart, on examination, was found to be normal. The lungs were in fair condition, but she has had a bronchitis for some time.

An examination of the urine was made at different times, but with negative results. There was no enlargement of the labia, but a badly lacerated perineum. The house physician was requested to have a careful examination made of her blood for signs of malaria, parasites, and as to its condition otherwise. Several tests were made, but with negative results, except as to its anæmic condition, as quoted above. My diagnosis was now confirmed and verified by Dr. Geo. Byrd Harrison, in charge of the clinic, and was also seen and recognized by the other members of the staff. Subsequently Dr. J. C. McGuire saw the case, and diagnosed it elephantiasis arabum. I explained the condition to the patient at this time, and found her in such a desperate condition mentally, that she willingly submitted to any line of treatment. I ordered now iodide of potassium, saturated solution ten drops, three times a day, and told her I would endeavor to have her treated in the hospital, as I wished to carry out a special line of treatment.

May 16th, 1893.—During her absence the iodide had been increased to fifteen drops *t. i. d.* I, under Dr. Harrison's supervision, was allowed to treat the patient during her sojourn in the hospital. She was put to bed after a hot sponge bath; this followed by a mercurial purge. A nurse was put in charge, who had orders to keep her leg elevated upon pillows in a half vertical position, and to keep it in this position as continuously as possible. The iodide was ordered increased one grain every other day. On the following day, with the assistance of the house staff, I forcibly bandaged the part, beginning at the toes with a three-inch Martin bandage while the limb was in a vertical position; severe, even pressure being my object, the bandage was allowed to remain on, until the toes indicated too much pressure, when the bandage was removed, the leg still being elevated. After the circulation had been re-established, the house physician would re-apply the bandage. A ten per cent. mercurial ointment was massaged into the part thoroughly every night. This treatment was continued for three weeks, but I was compelled to discharge the patient, as surgical (emergency) cases demanded the bed. I however ordered the bandage to be carefully applied at home and rest in bed, as she had done while in the hospital, and the iodide increased. After a month, she was able to return to the

clinic, having carefully carried out all directions. From now on she rapidly improved, and was much encouraged by her rapid change. In a short while she was able to wear her shoe, the part diminishing in size from the toes up. Her improvement has continued uninterruptedly up to the present time. In November, 1893, the iodide, which had been increased to sixty drops *t. i. d.*, was discontinued—the bandage, however, still being used.

Measurements.	Right Leg. May 16, '93.	Right Leg. June 13, '93.	Right Leg. Feb. 2, '94.	Left Leg.
Metatarsal joint,	25 cm. 10 in.	18 cm. 7½ in.	18 cm. 7½ in.	18 cm. 7½ in.
Arch of foot,	30 " 12 "	23 " 9¼ "	19.5 " 7¾ "	19 " 7⅝ "
Heel to ankle,	34 " 13⅝ "	25.5 " 10½ "	25.5 " 10½ "	26 " 10½ "
Calf,	40 " 16 "	34 " 13½ "	32.5 " 13 "	28 " 11¼ "
Knee,	43 " 17¼ "	33 " 13¼ "	32 " 12¾ "	30.5 " 12½ "
Lower thigh,	48 " 19½ "	37.5 " 15 "	36.5 " 14½ "	34 " 13½ "
Middle thigh,	58 " 23½ "	50 " 19¾ "	44 " 17½ "	43 " 17 "
Upper thigh,			53 " 21½ "	50 " 20 "

NOTE.—August 24th, 1894.—This patient was seen by me a few days ago, and the measurements were practically the same as when taken February 2d, when this paper was prepared. The patient's general health has markedly improved, and she is as active as ever before in her life.

Stearns' Kola Cordial

Is one-fourth the strength of the fluid extract, freed from acrid bitterness, and is claimed to be the only palatable preparation of the drug, pure and simple, that has been devised. It combines the invigorating properties of caffeine, with the stimulant effects of theobromine and kolanine, which latter peculiar principle is claimed by some investigators to be superior to cocaine as a stimulant, without the enslaving properties of the latter. Messrs. Frederick Stearns & Co., of Detroit, introduced *kola* to the profession of this country in 1882, and have issued an exhaustive treatise on the drug, which will be distributed with samples to doctors interested in the subject.

Epilepsy—Hydrocyanate of Iron For.

Dr. F. C. Wiser, Falls City, Neb., writes (*Jour. Mat. Med.*, August, 1894) that he has had over a year's good results from the use of the Tilden Company's hydrocyanate of iron in epilepsy. "Marked improvement in every case, and complete recovery in two cases." Dose, half grain three times daily.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

A Temporal Abscess the Result of Acute Otitis Media—No Involvement of the Mastoid Antrum.

Early in May, 1894, I was consulted by Mr. J., aged 56, in regard to his left ear. The trouble had existed for some weeks, most of which time the pain about and in the ear had been extremely severe. After the first few days, the discharge from the ear had been constant. Within the past few days the tissues back of the ear had begun to swell, while the pain had increased much in severity. Examination showed the tissues over the mastoid to be much swollen, the swelling extending to the region above the auricle. The whole swollen area was extremely sensitive to the touch. Patient very deaf in this ear. Discharge of pus, together with swollen condition of external canal, prevented any view of the drum-head being obtained. Wilde's incision was done over the mastoid, in the hope of reducing the swollen condition about the ear. No pus was obtained. Mastoid externally healthy. Swelling about the ear continued to increase, and with it increase in the amount of pain both subjectively and on pressure. Patient chloroformed. Incision made for opening the mastoid. As soon as the point of the knife had reached the bone above the linea temporalis, there was a gush of pus from the wound, a tablespoonful or more coming away. The external incision was completed; and although, as far as I could make out, the external bony surface of the mastoid and temporal region was healthy, an opening was made into the mastoid antrum. The external bony plate was thin, and air cells well developed, making the operation an easy one. No pus came away when the antrum was opened.

In regard to the further history of the case, there need be said only that although there remained some "noises in this ear," the hearing became good. The discharge from the ear, through the external auditory canal, ceased after two or three days. The wound made in mastoid region was entirely healed at the end of ten weeks. It discharged

more or less pus, the quantity gradually diminishing during this time.

Whether this pus came from the middle ear region, or from the old abscess above the linea temporalis, I was unable to decide; possibly from the attic.

This case is of interest, inasmuch as there was every outward indication of purulent mastoiditis. The antrum and mastoid cells were, however, found to be perfectly healthy; but the presence of the abscess just above the linea temporalis was due to a purulent middle ear inflammation.

Its probable course from the middle ear was as follows: There had been an inflammation of the middle ear attic, pus formed, and, before rupturing Shrapnell's membrane, some of it had found its way between the periosteum and the connective tissue over the bone above the Rivinian segment. The pus then worked its way along the upper wall of the external canal until it got into the temporal fossa, where it continued to increase. In the meantime, Shrapnell's membrane ruptured, and we had a discharge from the external canal. For pus in the temporal fossa drainage was impossible through this rupture; hence the swelling above the ear and also behind it continued. While the possibility that such had been the source and cause of the temporal abscess was recognized as soon as the abscess was opened, the probability of mastoid involvement was so great that it was thought best to examine the mastoid antrum.

A Mucocoele of the Maxillary Antrum.

The following case, unique in my experience, is recorded, although its history lacks in completeness. It has one or two interesting points:

Jno. S., iron worker, aged 30, complained of severe pain about his right eye, which felt as though it were being forced from the socket. The pain was a constant one. It had, for some days, been growing worse. Outwardly, as well as ophthalmoscopically, the eye was normal in appearance. The nasal cavities, viewed anteriorly and posteriorly, appeared healthy. No pain on pressure about cheek bone, nor had there been, at any time, pain in the maxillary re-

gion. Patient was ordered strong purge; it afforded no relief. Pain about the eye increased. Repeated examination of the nasal cavities failed to offer a solution as to cause of pain.

Exploratory puncture of maxillary antrum was decided upon. Trochar and canula were forced into the antrum intra-nasally, below inferior turbinate of right side. Trochar withdrawn. No escape of pus. Tube attached and solution of bichloride thrown into antrum. At first there was difficulty in compressing bulb. Suddenly there was gush of fluid from the nose. This fluid consisted of the bichloride solution, together with about a teaspoonful of a grayish, sticky, odorless, semi-fluid substance. Further washing of the antrum failed to bring away more of the same substance.

The following day the antrum was washed through the same opening and in the same way. At this washing, the contents of the antrum were less in quantity, were rather yellowish than grayish in color, and had lost some of their consistency. In this way, for two weeks, the antrum was washed out. Its contents became less and less in quantity, more fluid in consistency, and less grayish and more of a clear yellow in color. At the end of two weeks the solution returned unmixed. At every sitting the contents of the antrum came away en masse. At no time were they fluid, having consistence enough to adhere. At no time was any sign of pus in the fluid after it had been forced through the antrum. The pain about the eye disappeared and with it the patient.

This case has been called one of mucocoele of the maxillary antrum. The contents of the antrum justify the name. The cause of this condition must, I think, be sought in an acute inflammation of the mucous membrane of the antrum, occurring coincidently with or subsequently to a similar process in the nasal mucous membrane. There was more or less swelling of this membrane about the ostium maxillare. There was more or less secretion from the antral mucous membrane. So long as this was fluid, it escaped into the nose, or was reabsorbed by the mucous membrane. Later, the discharge became altered in character, became thicker and more tenacious—so much so that it could not escape, by the action of gravity, through the os-

tium. As it increased in amount, it may have pressed upon the swollen mucous membrane about the ostium, so as to close this opening. The pressure results of this accumulation then began to be felt.

The localization of the pain behind the eye may have been due to the pressure upon the thinnest part of the orbital plate of the superior maxillary, viz.: the part adjoining the ethmoid, somewhat posteriorly to the central plane of the orbit. When liquid had been forced into the antrum, and the mucous mass had been thinned, it could be washed through the ostium.

Would this case, if left untouched, have resulted in one of empyema of the antrum? It is not unlikely that such would have been the ultimate result. Mucocoeles of the various antra opening into the nose may, however, exist a long time without becoming empyemata. This change in their character may be brought about, however, by opening them and then allowing septic material to find its way into them. In some cases of fronto-ethmoidal or ethmoidal mucocoele, which it becomes necessary to open, it seems impossible—after they have been opened—to prevent their taking on a purulent character. It is, however, worthy of remark how resistant to this change the walls of a mucocoele at times seem to be. Bosworth claims that catarrhal inflammation, in a closed cavity, must give rise, sooner or later, to a purulent discharge.

The question is, however, an open one whether the mucocoeles observed in the air chambers about the nasal region have their origin solely in occlusion of their natural exits, or whether they may originate as inflammations of the mucous membrane lining these chambers.

The results of catarrhal inflammation of the antrum, the ostium remaining open, have not, so far as I am aware, been the subject of special study. (Prof. Gradenigo's communication (*vid. infra*), which I had the pleasure of seeing after the report of this case had been written, throws light on this interesting question. It furnishes what seems to be proof that catarrhal inflammation of the antrum may pro-

ceed to such a degree as to more or less completely fill this cavity with mucous material, material which, if examined under the microscope, would be seen to contain leucocytes; that this material, by its continued presence in the antrum—it being too thick to escape through the ostium—can cause further changes in the mucous membrane lining the antrum; that this condition of the antrum may exist indefinitely without resulting in true empyema of the antrum; all of which furnishes us, again, proof that pus discharges from mucous surfaces are the result of specific agents.)

Now, while it is possible we had in the case—the subject of this article—a true mucocoele of the antrum of Highmore, it seems to me more likely that the accumulation of mucous products found in the antrum represented the later stages of catarrhal inflammation, and that after a time this untreated condition would, not unlikely, although not necessarily, have resulted in empyema. That this would have been the case is, however, by no means proven. Purulent discharge I have seen follow primary acute inflammation of the antrum within two or three days. This purulent inflammation subsided, under treatment, after two or three weeks.

The question of the possible results of inflammations of mucous membranes of the various sinuses, is not yet fully answered. The presence or absence of pus-producing agents play a large part in determining the character of the discharge. As to whether the patient, Jno. S., was cured at the end of two weeks would depend in a very great measure upon whether his case was one of true mucocoele of the antrum or one of accumulation of mucous products, the results of acute inflammation. If the former, I should say he was not cured; if the latter, the probabilities are, he was. Unfortunately, he was one of those cases of which Gowers speaks, "who live on and pass from under observation."

Latent Empyema of the Maxillary Sinus.

Such is the title of a communication from Prof. Gradenigo to the Congress at Rome. Examinations of the maxillary sinus in the cadaver were made in one hundred cases, with

the result that there was found a muco-purulent condition in twenty-six cases. The anatomo-pathological picture most commonly found was as follows: "The cavity of the sinus is occupied by a viscid mass, yellow-green in color, ropy, often dense and massed together." "The mucous membrane appears swollen and yellowish." "The swelling and coloration of the mucous membranes are produced by infiltration with a lemon-colored liquid." This swelling is unequally distributed. "As a rule, there are no corresponding intra-nasal changes." "In no case did I note closure of the hiatus."

Prof. Gradenigo calls attention to the difference between these cases and true empyemata, with their characteristic purulent liquid. The former may give rise to no symptoms during life. They should be called mucocoeles, since mucus is the predominating element. The probabilities are that this condition results from "diffusion to the lining membrane of the sinus of an inflammatory process in the nasal mucous membrane." "The latter is cured while the mucous membrane of the antrum remains chronically inflamed." (Abstract from report by *Journal of Laryngology*.)

This communication from Prof. Gradenigo is one of especial importance in regard to the question of the possible results of inflammation of the mucous membrane of the nasal adjunct sinuses, and the picture presented should be borne in mind in all cases of obstinate purulent discharge from the maxillary antrum. For, should a purulent process become fixed in an antrum whose mucous membrane had already undergone such extensive changes, it would not be difficult to see how powerless for a cure would be the occasional injections of the safe antiseptic solutions through so small an opening as the ostium or the usual one made after extraction of a molar tooth.

The observations of Prof. Gradenigo bring into serious consideration the advisability, in those cases of obstinate and profuse discharge, where the general indications are those of extensive changes in the antrum, of opening the antrum by removal of a sufficiently large portion of the anterior maxillary wall. For only thus could we obtain a just idea of the extent and nature of the intra-antral trouble. When we remember the fact that carcinoma of the antrum

has been thought to be the result of long neglected disease of this part, the advisability of the anterior openings in obstinate cases is again worthy of consideration.

Here the question arises as to the possibility of a return of some of the elements of the mucous membrane to an embryonic condition as the result of the constant presence of inflammatory products. "The infiltration" of the mucous membrane, mentioned in Prof. Gradenigo's communication, "is not uniformly distributed, but, as a rule, is more noticeable on the anterior and interior wall of the antrum, where the mucous membrane may reach the thickness of more than a centimetre, a condition which may give an appearance like true cysts"—a positive result.

Syphilitic Paralyses of the Larynx.

The conclusions drawn by Batey (*Eleventh Internat. Med. Cong.* in Rome) from his observations on this subject are: "Among the causes producing paralysis of the larynx, principally of the posticus, syphilis occupies a more important place than is generally accorded it." "The most frequent paralysis of the larynx of syphilitic origin is paralysis of the recurrent, or of one of the posterior crico-arytenoids. This paralysis is very often bi-lateral; but monolateral paralysis may exist more frequently, since the physician has not the opportunity of observing them, because they do not affect respiration nor alter the voice. These paralyses are very rarely accompanied with material syphilitic lesions of the larynx, and, when they exist, they are quite independent of the syphilitic lesions co-existing in the same organ." Treatment should be actively antisymphilitic. (Abstract from report by *Journal of Laryngology*.)

Paresis of the Larynx.

Dr. Jno. Wyllie summarizes the recent investigations on this subject as follows: "A bi-lateral paresis of the adductor muscles, without any affection of the abductors, is almost always of functional origin." "A bi-lateral paresis or paralysis of the abductors, without apparent affection of the adductors, is very generally of organic origin." "There seems to be no exception to the rule that a bi-lateral

paralysis, involving both abductor and adductor muscles, is always of organic origin." "Unilateral forms of paralysis, whether affecting abductors or adductors, are practically all of organic origin." (From summary given by *N. Y. Med. Journal*, July 21st, 1894.)

While it furnishes us a momentary relief to read such a summary as the above, reflection tells us that it is the laryngologist's part, when consulted by a patient with symptoms of paresis or paralysis of one or more of the laryngeal muscles, to remember that there is no muscle of the larynx that may not exhibit—the cause being properly located—the results of both organic and functional trouble. He may, then, not rely upon any general rules for his guidance. The nature of each case of laryngeal paresis must be determined for itself.

A Note on Pyoktanin.

Experience has not given its seal to the claims first made for pyoktanin. Practically, it has thrown them all out of court. And yet the results sometimes following its use prove that pyoktanin has its therapeutic value. So far as I have been able to observe, we may expect its best results in old cases of suppuration of the middle ear or of the adjunct nasal air chambers, where the discharge is chiefly mucoid in character. I have not been able to note beneficial results following its use in acute suppurative processes.

Assafoetida Valuable in Insomnia of the Aged.

A five grain pill after supper, and repeated at bed-time, often brings refreshing sleep to the old. In mild delirium—especially during the period of unrest that precedes an attack of delirium tremens—an enema of two ounces of the mixture of assafoetida will generally produce the much needed sleep without recourse to narcotics.—*Louisville Med. Monthly*, August, 1894.

The Czar of Russia has Contributed

About \$40,000 (50,000 roubles) to help defray the expenses of the International Medical Congress, to be held in St. Petersburg a year or two hence.

Proceedings of Societies, Boards, etc.

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The first regular session since the organization of the Association last Spring, in Richmond, was held in Norfolk, Va., August 15th, 1894—Dr. Wm. H. Harbaugh, of Richmond, President, in the chair. The objects of the Association are altogether for the advancement of the science of Veterinary Medicine, and the promotion of professional interests.

Malade du Cort.

Dr. George C. Fayville, of ———, read a paper on this disease, sometimes called "*equine syphilis*" because it is a contagious venereal disease. His paper embraced a history of an outbreak of the disease in Nebraska, which he stamped out under the authority of the U. S. Secretary of Agriculture. Much interest was added to his description of the disease by the exhibition of some rare pathological specimens taken from the diseased animals just before they were destroyed.

Tuberculosis in Animals.

Dr. E. P. Niles, of Blacksburg, Va., read a paper on this subject, which has been contributed to the *Virginia Medical Monthly*, [see page 512]. This paper was made doubly interesting and valuable because the Professor gave a number of the facts and figures of his own investigation. His experiments with *tuberculin* prove it to be the only means whereby tuberculosis can be diagnosed in the great majority of cases. Physical examinations may detect well marked cases of the disease in a dairy or herd; but no physical examination can possibly detect the many latent forms of the disease. With *tuberculin* properly used, however, it is possible to detect the disease early enough to stamp out the scourge, and thus make the milk of cows so affected a comparatively safe diet for man or animals dependent upon a fluid diet. Many of the points were analyzed in discussions by those in attendance, and the conclusions of the paper were unanimously commended.

Several of the *diseases common to man and the lower animals* were incidentally brought up, and received special attention in the several discussions.

Much important business was introduced, discussed and transacted. Dr. George C. Faville was elected Secretary of

the Association in place of Dr. A. W. Swedberg, who was expelled from the Association because of irregular and unprofessional conduct.

Among the new members elected was Dr. M. D. Hoge, Jr., Professor of Pathology, etc., in the University College of Medicine, Richmond, Va.

The next regular meeting will be held in Charlottesville, Va., January 15th., 1895.

Analyses, Selections, etc.

New Method for Reduction of Fractures of the Lower End of the Radius.

Dr. Thomas S. K. Morton, Professor of Surgery in the Philadelphia Polyclinic, read the following valuable paper last May before the College of Physicians of Philadelphia: The particular method of reducing fractures of the lower end of the radius, to be described, has proved so satisfactory during the past few years in my services at the Pennsylvania and the Polyclinic Hospitals and elsewhere, and in the hands of others to whom I have from time to time demonstrated it, that I now feel justified in giving to it wider publicity. The method is as follows:

The surgeon stands in front of the patient and interlaces his fingers beneath the pronated wrist and palm of the injured member, so that his two index-fingers lie parallel crosswise beneath the lower end of the upper fragment of the radius. The palms of the surgeon's hands are then closed in upon the thenar and hypothenar portions of the patient's hand respectively, while the surgeon's thumbs rest parallel lengthwise upon the upwardly displaced lower fragment of the radius. The parts are thus firmly grasped by the surgeon while the following movements are made: The patient's wrist is excessively extended by carrying his hand upward. When hyper-extension has thus been secured, the surgeon makes powerful traction upon the wrist in the line of hyper-extension. While this traction is maintained, the hand is suddenly carried into full flexion, and at the same time powerful downward pressure upon the upwardly displaced lower fragment of the radius is made by the surgeon's thumbs opposed by the interlaced index-fingers beneath the lower end of the upper fragment.

The excessive extension of the first portion of the movement has always, so far in my experience, loosened or disentangled the displaced lower fragment, while the subsequent traction, flexion, and direct thumb-pressure have not yet failed to accurately force the lower fragment into its proper position. Separated epiphysis of the lower end of the radius is likewise easily reducible by this manipulation. For comminuted or complicated or very oblique fractures, extension and moulding alone are called for in most instances.

Anæsthesia is unnecessary for making a single effort at reduction by the proper method. The patient does not anticipate what is coming, the two movements are made with lightning-like rapidity in a small fraction of a second, and in nearly every case perfect reduction has been accomplished before the patient realizes that he has been hurt. Should the manipulation fail to secure perfect reduction at the first attempt, I would not repeat the manœuvre until anæsthesia had been induced, for the pain of repeating it would be intolerable. Failing in one effort, then, I would etherize and try again, first, this, and afterward, if necessary, any other method that seemed advisable to secure perfect reduction. But thus far, in cases that have been seen within a week of the accident, I have never had to anæsthetize since evolving the method mentioned; all have been reduced at the first attempt.

In cases older than one week, with displacement persisting, I anæsthetize before making any effort at reduction. The new method may then first be resorted to, and will often be found the best means of performing both refracture and reduction.

For making a diagnosis, I have also found a modification of this method most useful. If the surgeon will take the hand and wrist in which fracture is suspected into his hands, as above described, and, while the thumbs press firmly upon the lower end of the radius or first row of the carpus, make a series of gentle, quick, short flexions and extensions of the joint—rocking it through an arc of perhaps 25 or 30 degrees above and below the forearm as a horizontal plane—he will be astonished at the ease with which crepitus of the bones of the joint and of any small or large bony or cartilaginous fragment will be elicited. And, best of all, the diagnosis of these obscure fractures about the wrist can thus, after some practice, be brought out without giving unbearable pain to the patient. Indeed, I

have often in this way, by the most gentle and practically painless manipulation, been able to clear up the nature of intricate injuries about the wrist.

By practicing the method upon a normal wrist, a sufficient degree of expertness can readily be acquired; by it joint crepitation can be brought out in any wrist. It is well, however, not to practice too much or too often upon the same extremity, as excessive stirring up of the joint contents might originate a synovitis.

Antiseptic Treatment of Typhoid Fever.

Dr. J. L. Napier, of Blenheim, S. C. (*Trans. S. C. Med. Asso.*, 1894), for several years has treated all his typhoid fever cases (over 100) on a strictly antiseptic plan—both local and general, with only one death (young man with hepatic abscess complications, who first came under treatment during the second week of fever). Three pregnant women with fever, between the fifth month and full term, miscarried—infants dying. He used vaginal and intra-uterine antiseptic washes in the mothers, who recovered. Under the antiseptic treatment, as a rule, the third week fever period becomes a convalescing season, with returning appetite—the temperature varying from 100°F. to normal. Before adopting the antiseptic treatment, he had quite a large per cent. of relapses and bowel hæmorrhages, and a number of deaths; since adhering strictly to the antiseptic plan, from beginning to the end of attendance, he has had only one case of relapse, and one case of hæmorrhage. He begins the treatment with a full dose of calomel, which purges the bowels of fermenting and poisonous matter, and gets the antiseptic effects of the calomel and of the bile. As soon as the calomel acts, begin with two and a half to three grains of sulpho-carbolate of zinc every three hours, *and so continue* until convalescence is established. If there be diarrhœa, add five grains of salol or salicylate of bismuth, or both, to each dose until it is controlled. When fever runs above 102°, give two and a half grains of phenacetin every three hours; if necessary, use cold applications until fever is controlled. He never uses large doses of phenacetin, because of the too profuse diaphoresis. He has never seen any but beneficial effects from repeated small doses. The special points in favor of the sulpho-carbolate of zinc are its solubility in water, non-disagreeable taste, and easy administration. It is readily absorbed by the circulation, is one of the most active antiseptics we have,

and can be given indefinitely without danger. Large doses, however, cause emesis, which should be guarded against. *Given continuously*, it reaches the poison that has entered the circulation, and been carried thereby to different organs. Of course, no one would expect to fill the circulation sufficiently to kill the bacilli, but its constant use does weaken their vitality, and lessen their multiplicity, thereby lessening their virulence. Thymol, naphthol, salicylate of bismuth, etc., reach the local manifestations in the bowels, and break up any fermentation. When there is tympanites from relaxation of the muscular coat of the bowels, caused by an excess of poison, depressing the nervous system, give such tonics and stimulants as strychnia, belladonna, and digitalis. He has almost abandoned the use of whiskey. If there is much ulceration, with dry tongue and scanty urine, ten drops each of spirits of turpentine and tincture of digitalis, every three hours, will be useful—adding turpentine stupes when necessary. Turpentine is a powerful glandular stimulant, and has decided antiseptic properties. Let the patient drink all the cold water he wishes—especially if there is much thirst or fever. It assists the renal function and adds to the comfort of the patient.

“That the typhoid bacilli circulate in the blood has not, as yet, been fully demonstrated. If they do not, why do the liver, spleen, kidneys, and, in fact, the whole glandular system, become so much involved, and their functions so much deranged? Kamen, as a result of a bacteriological study of a fatal case of enteric fever, with acute meningitis, concludes that the sole infective agent producing the meningitis was Eberth's bacillus. Haushalter, in a fatal case, complicated by phlegmasia alba dolens, made a bacteriological study of a fibrinous clot, found in the left crural vein, also the spleen and liver, disclosing the presence exclusively of typhoid bacilli. The case of an infant, which came under my own observation, whose mother had a well marked case of typhoid fever of ten days' duration before its birth, I think demonstrates the fact that the poison circulates in the blood. The infant lived five days, and had fever from its birth, with dry mouth and tongue, diarrhoea, and rash upon its body. If this infant had typhoid fever, which I think it did, the poison was transmitted from the mother through the circulation. If typhoid fever is dependent upon a contagium vivum for its origin and continuance; and if the poison is absorbed in the blood, how can you best reach and counteract it and its effects? By an antiseptic that readily enters and circulates in the blood.”

Strychnia Curative of Ascites.

Dr. Thomas J. McKie, of Woodlawn, S. C., says (*Trans. S. C. Med. Assn.*, 1894) that he called attention to this matter several years ago. Without attempting to distinguish dropsy as a disease and as a symptom, he uses the term as an entity for convenience sake. While he claims priority in the use of strychnia as a curative treatment of ascites, it was the result of an accident.

CASE I.—Years ago, a negro woman with ascites, aged about 40, multipara, had passed through the hands of many professional friends without benefit—including many tappings. Dr. McKie continued the tappings at intervals of from 14 to 20 days until paralysis of one side took place, for which he prescribed strychnia—the trocar not being afterwards used. The dropsy was cured, as also the leg paralysis, although the arm was never fully restored.

CASE II.—Years later, a bright mulatto, multipara, age 36, previously in good health, had oedema of lower extremities with decided inflammatory symptoms, soon followed by ascites, which demanded the use of the trocar. After a number of tappings at intervals of about ten days or more, she began the use of strychnia, and was cured of her dropsy, which never returned, although she died of another disease some five or six years afterwards.

CASE III.—A gentleman, age 48, for years was supposed to have incipient tuberculosis—having dyspnoea, cough and bloody expectoration, followed by wasting, inability to preserve the recumbent posture, oedema of the lower extremities, and other evidences of anæmia. When first seen by Dr. McKie, more than a year after the first symptoms presented themselves, he had anasarca as well as ascites, dyspnoea, inability to rest in the recumbent posture, some cough, and tremulous heart action. The dropsy was evidently symptomatic, and probably was due to valvular insufficiency, with blood stasis of the pulmonary tissues, resulting in cough, with bloody expectoration. Under the use of cardiac sedatives, diuretics and purgatives, there was decided amelioration of the more distressing symptoms; but the anasarca, *pari passu* with the ascites, advanced, until within a few weeks they assumed the most prominent place in the category of symptoms. Enormously swollen genitals were superadded. Soon the cuticle gave way on the lower extremities, discharging each day a considerable quantity of serum. Under the use of strychnia, there was gradual

improvement. Three months ago, he was eating and sleeping well, going about his farm in comparative comfort, though with some œdema still in the lower extremities. It appears that impending death was averted by the strychnia sulphate for two or more years. Commencing dose was one-thirtieth grain every eight hours, gradually increasing until one-eleventh grain was reached, when muscular pain in the arm became great.

CASE IV.—Lady, age 20, previously attended by another doctor who suspected incipient tuberculosis because of cough, rather free expectoration, dyspnœa, and the fact that members of her family had died of phthisis. On first visit of Dr. McKie, April, 1893, were great irregularity of pulse, dyspnœa, slight cough, diastolic heart murmur, œdema of feet extending nearly to knees, and ascites enough to obstruct respiration even in sitting posture. Under the use of diuretics, cardiac sedatives, occasional hydragogue cathartics, and constant use of strychnia, gradual improvement took place—could rest in bed, eat well, take horseback exercise, etc. The patient left, and treatment was neglected until swelling had again made considerable progress, and patient died eleven months from date of first visit.

That the physiologic action of strychnia to its full therapeutic effect shall be experienced seems necessary, and it has been found safe to increase the dose cautiously to that extent.

Complications in Ovariectomy.

Dr. Cornelius Kollock, of Cheraw, S. C., in a very excellent clinical paper (*Trans. S. C. Med. Ass'n*, 1894), says "the rule of Sir Spencer Wells is the safest guide in all abdominal or pelvic operations:—'never be too sure of your diagnosis till you have seen in the cavity.'" How often does the surgeon who has diagnosed a simple ovarian cyst, find, in addition, an abscess of the broad ligament, an intraligamentous ovarian cystoma, a pyosalpinx, or perhaps uterine cancer! Hence the lesson in all pelvic and abdominal operations, be prepared for any emergency. Cases in point are noted.

I. Lady, multipara, age 36. Examination revealed small cyst of ovary—not large enough to produce the abdominal distension complained of. Menstruation normal, and she did not suspect pregnancy. Hence, sound not introduced. Therefore, $3\frac{1}{2}$ inch incision from below umbilicus, when on each ovary was found a dermoid cyst—one weighing 6

pounds, the other about 5.5. As soon as cavity was opened, he became positive that the woman was pregnant. In 116 days more, she gave birth to fine twins—now living.

II. Mulatto, age 39, married twenty years, but never conceived so far as she knew—menstruation having been fairly regular. She presented marked abdominal distension—49 inches. Large fibroid with small pedicle was found just within the cervix; a smaller fibroid was attached higher up in the cervix; a third intra-uterine fibroid was attached near fundus. The pedicles were all doubly ligated and the fibroids removed, when it was found that patient was also pregnant, giving birth to a fine boy 3½ months later.

III. Colored, multipara, age 34, general health good, never troubled with hæmorrhages nor even very profuse menstruation. Abdomen measured at umbilicus fifty-one inches. After examination, diagnosed a heterogenous mixture of growths in pelvic or abdominal cavity. Incision four inches long. Fibroid size of foetal head was attached by small pedicle to anterior labium just within cervix; an orange size cystoma on each ovary; six other fibroids varying in size from hen's egg to pigeon's egg—four on outer uterine walls, and two to broad ligament. The larger the fibroids, the smaller were the pedicles. None were interstitial. Ovarian cysts and fibroids as well were ligated and removed successfully. Patient was up and about her house in three weeks, and was picking cotton three weeks later. She is now perfectly well.

Treatment of Typhoid Fever.

Dr. Elmer Lee, Chicago, says (*Chicago Med. Rec.* April, 1894) the application of the principles of asepsis or cleanliness more nearly meets the requirements of a real advance in therapeutics than all other propositions of recent years. Fears were formerly entertained that something would be burst by running a large volume of water into the bowels of typhoid patients. He has so deluged several hundred cases, but no harm has ever been done, nor is harm likely to follow. The temperature of the drinking water should depend on that of the body. If fever is high, it is more agreeable and useful to use cool water—say 75° F.; but if the patient is chilled, the water should be at blood heat—about 100°. During the first week, irrigate the bowels in the morning and again in the evening of each day; after this, one douche a day should be given until convalescence. Bathing the body should be at regular intervals. The bath

tub may be used when the patient is strong enough; otherwise, sponge with cold water or wrap the patient in a wet sheet and then in blankets. If the patient is made comfortable, he may remain in the wet pack a half hour or so. Repeat the bathing several times daily as required during the febrile stage. The basis of internal treatment is to be plenty of cold water—the elimination being through the intestinal canal, through the kidneys, through the lungs, and by the skin. Add a half teaspoonful of hydrozone to each glass of water: after a few days' continuance, substitute it by glycozone—the alternation of those antiseptics appearing to be better than the continuous use of either. Glycozone is chemically pure glycerin in which ozone has been incorporated, and can be taken with as much freedom and safety as pure glycerin—about a dessert spoonful in a glass of water as often as water is taken during the day.

To allay nervousness and induce sleep, give from half to one grain of sulphate of codeine by mouth, or half as much hypodermically. As for food, milk, an egg every day or every other day, alternated with a small teacupful of fresh pressed juice from broiled steak or mutton. The egg is pleasant, and more nutritious when whipped till light, and then stirred with a small glass of milk. The juices of selected, fresh, ripe fruits are delicious. Thus it is seen that he does not think any kind of drug treatment is useful or curative in typhoid fever. Cleanliness is the principle governing the use of hydrozone (which now takes the place of peroxide of hydrogen because of its greater bactericide power, as it requires but half the quantity of hydrozone to obtain the same result, and because its taste is not disagreeable) and glycozone. Sulphate of codeine is better and safer than chloral to allay nervousness and induce sleep. Stimulants are injurious without exception.

Selection of Glasses for Defective Eyes.

Dr. Charles W. Kollock, of Charleston, S. C., in summing up a very useful article (*Trans. S. C. Med. Asso.*, 1894) says:

1. Ascertain as nearly as possible the general condition of the patient; and then test the refraction—preferably while the eyes are under the influence of a mydriatic (atropine).

2. Then, according to the condition of the eyes, the general health and occupation, advise the glasses that are most useful and comfortable.

3. For correcting squints and abnormal muscular rela-

tions, rely first upon the proper correction of refractive errors, exercise the orbital muscles with prisms, and finally perform advancement or tenotomy.

4. Glasses should be used as long as their good effects last. In progressive myopia, astigmatism—simple or compound, and in high degrees of hyperopia, their employment should be constant. In slight degrees of hyperopia, complicated by weakened accommodation, or in cases of emmetropia (normal vision) when the accommodation has been weakened, it will frequently be found that the glass acts as a tonic, and may be laid aside after the normal tonicity has been recovered.

Dr. Kollock has seen a case of blindness caused by suppression of the menses. Vision quickly became normal after re-establishment of the function.

Nutrolactis—the Galactagogue.

Why this preparation, said to contain 3 parts of the fluid extract of gallega officinalis and one part of gallega tephrosea, is not more used, we do not know. Dr. Robert Milbank, Visiting Physician to the New York Infant Asylum, as long ago as 1889, reported (*N. Y. Med. Jour.*) that “after more than a year’s use, it has been more satisfactory than any galactagogue” he had employed. Before the Academy of Medicine, New York, last May, Dr. J. Lewis Smith, said that in two institutions with which he is connected, “a tablespoonful of nutrolactis has been found to decidedly increase the quantity of mother’s milk.” Any number of like testimonials from competent observers satisfy us that it is a marvelous milk-producing agent for mothers who have scanty milk-supply. It acts also as an excellent tonic for both the mother and child.

Rawley Springs, Va.

One of the distinct features of the value of the Rawley Springs as a place of resort for those who are in search of health or climate, is the *climate*, which is perhaps the most remarkable to be found in the United States. The air is so full of ozone, so very dry and pure and bracing, that every one without exception feels benefited from the time of arrival at the Springs. The scenery is wild and rugged, but at the same time grand and picturesque.

Book Notices.

Anomalies of Refraction and of the Muscles of the Eye. By FLAVEL B. TIFFANY, M. D., Professor of Ophthalmology and Otology, University Medical College of Kansas City, Mo., etc. *Author's Edition.* Kansas City, Mo.: Hudson-Kimberly Pub. Co. 1894. Cloth. 8vo. Pp. 307.

Dr. Tiffany has given us an excellent text-book on the refractive and muscular anomalies of the eye, and we recommend it to all who, as beginners, wish to become acquainted with these subjects. It will prove especially valuable to students of ophthalmology of the post-graduate institutions. Dr. Tiffany's work contains the principles of optics as applied to ophthalmology, an elementary description of the eye, a chapter on accommodation, the methods of examination of the eye, trial lenses, test types, ophthalmometers, ophthalmoscope, retinoscopy, perimeter; chapters also on myopia, hyperopia, and astigmatism with a description of Faval-Schiötz ophthalmometer, anisometropia, aphakia and presbyopia.

Following this are chapters on heterophoria, with clear descriptions of the methods used for its determination. Its treatment has not been gone into as thoroughly as one who has read the previous pages of this work might expect. The next chapter is on strabismus, a subject which, however, does not receive the attention which might have been expected in Dr. Tiffany's excellent text-book. The illustrations in this chapter, "before and after operation," are unnecessary. Chapter XIII is on "Spectacles." J. D.

Manual of Nursing in Pelvic Surgery. By LEWIS S. McMURTRY, A. M., M. D., Professor of Gynæcology in the Hospital College of Medicine, etc. Louisville: John P. Morton & Co. 1894. Cloth. 12mo. Pp. 92.

This is No. 3 of "Morton's Pocket Series." It is based on actual experience as to the needs of the nurse, as developed by services rendered in the Jennie Cassedy Infirmary for Women. No department of advances in treatment should be more carefully attended to than the instruction of nurses; and this little volume is plain, practical teaching, useful in every school of nurses, giving those details of the technique of modern pelvic and abdominal surgery usually omitted in text-books. Special attention is given to the after-treatment of cases of abdominal section and the complications which may arise.

System of Genito-Urinary Diseases, Syphilology and Dermatology. By VARIOUS AUTHORS. Edited by PRINCE A. MORROW, A. M., M. D., Clinical Professor of Genito-Urinary Diseases; formerly Lecturer on Dermatology in University of City of New York, etc. *With Illustrations.* In Three Volumes. VOL. III.—DERMATOLOGY. New York: D. Appleton & Co. 1894. Cloth. Large 8vo. Pp. xiv—976. (Sold only by subscription. Cloth, \$6.50 per volume; Sheep, \$7.50 per volume.)

This magnificently issued volume completes a "System" on three of the most important classes of diseases to the practitioner with which he is daily meeting, among rich and poor alike. While the distinguished Editor has well done so much in the way of contributions to the pages of each volume, his labors and anxieties have been much lessened by the contributions of educated and eminent authors in their respective specialties. For instance, the list of contributors to the volume before us includes the names of 27 practitioners whose voice, regarding the special subjects of which they have written, would be accepted as authority. This Volume III possesses a special interest to Southerners in that their section is so well represented. Thus three of the distinguished contributors are from New Orleans—Drs. Henry W. Blanc, Isadore Dyer, and Rudolph Matas.. Of course, a work like this has for its chief object the serving as a compendium for reference, as it is entirely too much for college students. To indicate how comprehensive and fully up to date is this volume on "Dermatology," it will suffice to note that no less than forty diseases are recognized as distinct clinical entities, which were either unknown or else were identified with other dermatoses a few years ago. The most recent researches into the etiology and bacteriology of diseases of the skin have been included. It would be impossible to review a work of such dimensions in space so limited as that at our command. We have only to give our unreserved commendation to the scope and the details of this publication, which is a library in itself on the diseases named in the title. The chromo-lithographs are excellent; the type well selected; the binding and general look of the book are faultless. Practitioners cannot well afford to be without this "System," in order to help themselves in diagnosis, etiology, and especially in therapeutic selections. Every section or chapter, as far as practicable, gives the lessons learned by observation and experience. We know of no *System* so invaluable to the every-day doctor, as well as to the specialist or the professor.

Manual of the Practice of Medicine. *Prepared Especially for Students.* By A. A. STEVENS, A. M., M. D., Instructor of Physical Diagnosis in the University of Pennsylvania, etc. *Second Edition. Illustrated.* Philadelphia: W. B. Saunders. 1894. Demi 8vo. Pp. 501. Cloth. \$2.50.

The great complaint of the busy practitioner is that he has little or no time to furbish up on what he has learned over and over, and has unlearned just as often. Facts—important facts—slip his memory, which he has stored up repeatedly since his student days. This *Manual of the Practitioner* is a book that very thoroughly fulfils the design of the author. It is a short, complete, scientific outline of practical medicine—pathological, diagnostic and therapeutic. It is a book of *facts*, not a mass of useless rubbish; but the necessary information is given in concise clear language. The *Manual* is especially designed for students, but the progressive physician cannot fail to appreciate its service in his regular practice. All such books are open to some criticism, but the faults of this one are few and of comparative insignificance. Dr. Stevens is one of the rising physicians of Philadelphia and has an extensive reputation as an astute diagnostician. As a Demonstrator of Medicine in the University of Pennsylvania, he has shown marked ability, and his brilliancy compels present admiration, so that the envious resort to predictions of great success in the remote future, is in his case entirely unnecessary.

The fact that the book is now in its second edition attests its popularity, the first being last year. S. P. P.

Manual of Instruction in the Principles of Prompt Aid to the Injured. By ALVAH H. DOTY, M. D., late Attending Surgeon to Bellevue Hospital Dispensary, New York. *Second Edition, Revised and Enlarged.* New York: D. Appleton & Co., 1894. Cloth. 12mo. Pp. 304. \$1.50. (For sale by West, Johnston & Co., Richmond.)

The use of such a "Manual" as this is apparent. The outline drawings, showing the position of important arteries, etc., are practical and quite reliable. The attempt of the author to furnish a guide so that the non-surgical man may utilize the teachings, is thus made a success. But there are many reminders, hints and advices which make the book just as valuable to the medical man in an emergency as to the hospital steward or nurse. This second edition contains a chapter on Hygiene not in the first edition, and the recently adopted drill regulations for the Ambulance Corps, U. S. Army, are also introduced. It is a good book.

The Graphic History of the Fair—*Held in the City of Chicago, State of Illinois, May 1 to October 31, 1893.* With nearly 1,000 Illustrations. Chicago: The Graphic Co. Cloth, 16 x 11 inches Pp. 240.

To both those who went and to those who did not go to the Columbian Exposition this is a most interesting book. It reminds the one of many things he saw and of which he heard, but could not see, because of the impossibility of any one visitor taking in the whole thing during the period of the Fair; it gives to the other a graphic description of what was to be seen and heard. It contains a sketch of the International Expositions, a review of the events leading to the discovery of America, and a history of the World's Exposition last year. It describes the notable features in the several departments, the sculpture of the buildings and grounds, the department edifices, the State and Foreign buildings and pavilions, the exhibits, etc. As nearly every one of the 1,000 illustrations are electro-photographs, they are all accurate and well printed. Indeed, every family should have this book, as it entertains while it instructs.

Treatise on Diphtheria. By DR. H. BOURGES. Translated by E. P. HURD, M. D., Professor of Pathology in the College of Physicians and Surgeons, Boston, Mass. 1894. George S. Davis, Detroit, Mich. Demi 8vo. Pp. 173. Paper, 25 cents.

This number of the "Physician's Leisure Library," intended for the series of 1893, is just issued, as the manuscript was not received earlier by the Publisher. But the value of the "Treatise" is not lessened by this delay, as it contains mention of the latest advances in pathology and treatment, which recognizes the Klebs-Loeuffer bacillus as the cause of the disease.

Johns Hopkins Hospital Reports. Vol. IV. *Report on Typhoid Fever. Also on Neurology, II.* Baltimore, Md. 1894.

These are Nos. 1-5, inclusive, of the magnificent *Reports*. Nos. 1, 2 and 3 are under one cover, on *Typhoid Fever*, prepared principally by Prof. Wm. Osler, M. D.; Nos. 4 and 5 are also under one cover, and constitute No. II Report on *Neurology*, prepared by Prof. Henry J. Berkley, M. D. The value of these *Reports* consist in the fact that they are, for the most part, original investigations by men who are standard authorities already—men able to observe intelligently and to deduce conclusions which experience will confirm.

Editorial.

Medical Society of Virginia.

The Twenty-fifth Annual Session, to be held in Richmond, October 23rd, 24th, 25th, and probably a part of the 26th, promises to be the largest and the best of the meetings ever held. Distinguished medical men from other States, as well as most of those of Virginia, have promised attendance, and participation in the discussions as they may arise. There is reason to believe that the discussion on Appendicitis especially will be most valuable, as that is the subject for general discussion, with Dr. Wm. L. Robinson, of Danville, Va., leader. This is furthermore the subject of the Essay for which Dr. Hunter McGuire offers this year his annual Prize of \$100—open to any member of the State Medical Societies of either Virginia, West Virginia or North Carolina. The number of applicants for Fellowship this year will also be very large. It is earnestly urged that all members will *promptly* forward the applications of their friends to the Secretary in order that the report of the Committee on Applicants for Fellowship may be made the first night. The Preliminary Postal Card has been issued. The following Pharmacists of this city will have charge of the Exhibition Hall:—Messrs T. A. Miller, Chairman, Wm. P. Poythress, Polk Miller, Geo. W. Latimer, and A. G. Briggs. In this connection, we are requested to ask firms who propose to be represented in the Exhibition Hall to write at once to the Chairman of the Committee stating what space they will need, as the spaces will have to be allotted in the order in which the applications are received.

Our October number will contain a fuller note of this Session. In the meantime, address communications, according to the subject, to Dr. Wm. P. McGuire, Winchester, Va., *President*; Dr. Landon B. Edwards, *Recording Secretary*; Dr. Richard T. Styll, Hollins, Va., *Treasurer*; Dr. J. S. Wellford, Richmond, *Chairman Committee of Arrangements*.

Secretaries of other State Societies should forward P. O. lists of Fraternal Delegates to the Virginia Medical Society in order that circular Announcement may be sent each of them.

The Stamping Out of Tuberculosis.

We wish to call special attention to the strong paper of Professor E. P. Niles in this number, on "Tuberculosis in

Animals—Facts and Figures, and Deductions Therefrom.” It is one that the intelligent layman may read with the same interest and profit as the professional man. In fact, it is a paper which, receiving the endorsement of the medical profession, as it must in most of its details, should be popularized through the public prints and newspapers—emphasizing, as it does, the laws by which tuberculosis can, in the course of time, be practically stamped out, but the enactment of which laws can never be secured until the *people* of the State are educated on the subject. With forcible and convincing earnestness does he declare that “Science is arrayed for the battle; all that is lacking is the declaration of war on the part of the States and government.” For the sake of humanity, we trust that the medical profession will not be backward in enlisting in the cause of popular education on all such public health subjects. Let not our doctors forget their high calling in matters that pertain to the prevention or “stamping out” of preventable diseases.

Our friends in the veterinary school of practice are fully alive to the importance of the questions involved. In fact, to some of that school is the world indebted for the most important of scientific discoveries relating to the causes of infectious diseases. Veterinarians, in their advanced professional stand, have frequent opportunities for scientific vivisections, pathological investigations, and the like, which rarely fall to the lot of our own profession. And when we consider the wonderful advances—in lead of our own scientific workers—they have made in the departments of etiology, bacteriology, pathology, antiseptic therapeutics, etc., and recognize that so many of the infectious diseases that afflict humanity often come through diseases of animals which they are best able to study and to prevent, we see at once that no State Board of Health can be properly organized without the authority to employ the constant service of a competent veterinarian. That vanity which creates the false doctrine of “the temple of the Lord are we,” and denies to others the value of truths discovered and studied to their reasonable deductions by them, should have no encouragement by the learned members of the medical profession—not even the encouragement of being silent on the subject.

To give authoritative effect to the paper, it is not necessary for us to refer to the eminent rank of the author among scientific veterinarians of this country. Its favorable discussion and commendation by the President of the Virginia

State Veterinary Medical Association, Dr. Wm. H. Harbaugh, of this city, in itself would be sufficient. Their able services in this special field of investigation for the U. S. Bureau of Animal Industry have given them national renown, and their published contributions in the official *Reports* of that Bureau are recognized as standard authority.

If we could secure for this essay by Dr. Niles the attentive reading by State and municipal authorities, and other influential citizens, there would be no difficulty in convincing them that by stringent laws only is it possible to protect public health.

The Chair of Obstetrics and Practice of Medicine, University of Virginia,

Made vacant by the death of Prof. Wm. C. Dabney, will be filled only temporarily until the Board of Visitors shall have time to make a proper selection of a professor as successor. Dr. Rawley W. Martin, of Chatham, Va., on the part of the Board, Prof. Paul B. Barrington, of the University, and Dr. W. C. N. Randolph, of Charlottesville, were appointed a Committee to make selection of a suitable doctor to fill the chair temporarily. In this connection, we should remark that, in view of the repeated spontaneous urgent entreaties of many friends of Dr. Rawley W. Martin who know his great worth and ability, for him to apply for the Professorship, he positively declines to allow his name to go before the Board, and has so informed them. Dr. Martin appreciates the compliments that are being voluntarily poured upon him by his friends, but his decision is final in this direction. It is indeed a great compliment to be thus pressed by the wishes of friends who know him well.

Lehigh Valley Medical Association

Is the journal of the Lehigh Valley Medical Association, published quarterly by a Committee of the Association—about fifty pages a number—\$1 a year. Its papers are good. Dr. Charles McIntyre is Editor and Manager. It is published at Easton, Pa.

Southern Medical Review

Is the name of a monthly journal of medicine and surgery, begun June, 1894, in Houston, Tex., edited by Dr. N. J. Phenix. \$1 a year. Pages 42 octavo. It starts off well, with an able corps of contributors. "May it live long and prosper."

The American Medical Publishers' Association

Held its regular annual session at Hot Springs, Va., August 13th and 14th. The membership of the Association is now represented by the publishers of about sixty of the reputable medical journals of the country. If any medical publisher doubts the value to his journal of membership in the Association, he could not have attended this recent session without having such doubts removed. In every respect, the meeting was harmonious, the relationships between journals and advertisers were freely discussed, and many valuable suggestions were exchanged, by which the publishers must have been benefitted. One great protective advantage of the Association is its Bureau of Information feature, which is rapidly developing, whereby the status of questionable or unreliable or irresponsible advertisers is found out in time to prevent acceptance, or save material loss, if their advertisements are admitted in a journal a member of this Association. We are sure that this journal has already been saved from losses by its membership of the Association; so that the annual membership fee of five dollars is a small expenditure for so great a benefit. As it was thought best to continue the organization until the next regular meeting with the officers under whose administration the plans of the Association are being formulated, the officers were re-elected with the exception that Dr. J. R. Clausen, of Philadelphia, was elected the member for five years of the Executive Committee, in place of Mr. J. H. Chambers, of St. Louis, whose term of one year expired, and declined re-election.

The next annual meeting will begin in Baltimore, on Monday, of the week during which the American Medical Association will be in session there. The publishers of the *Maryland Medical Journal* have been appointed a Committee of Arrangements. Applications for membership, with \$5 initiation fee, may be sent to the Secretary, Mr. Chas. Wood Fassett, St. Joseph, Mo.

A much enjoyed social event of the meeting at Hot Springs was a "tin wedding dinner," given the members of the Association and the ladies accompanying them by Mr. and Mrs. Chas. Wood Fassett, of St. Joseph, Mo., in one of the private dining rooms of the hotel. Appreciation of the occasion was nicely expressed in an almost impromptu composition in verse, impressively read by one of the young ladies at the table.

Mississippi Valley Medical Association.

The Twentieth Annual Meeting of this Association will occur in Hot Springs, Ark, November 20, 21, 22, and 23, 1894. The Association is in a more prosperous condition than ever before, and no efforts will be spared to make this meeting not only the largest but the most interesting and profitable ever held. Indeed, its success is already assured, many valuable papers by most excellent authors having been promised. Socially, the visit will be enjoyable, as the physicians and citizens with their characteristic hospitality are united and enthusiastic in their endeavors to make the sojourn of their guests pleasant. The railroad rates will be very low. Dr. Zenophen C. Scott, of Cleveland, Ohio, *President*; Dr. T. E. Holland and Dr. J. T. Jelks, Chairman and Secretary of the Committee of Arrangements; Dr. Frederick C. Woodburn, of Indianapolis, Ind., *Secretary*.

Dr. Hunter McGuire

Is expected to return from his Summer European trip about the 20th of this month, when he will at once resume professional duties in St. Lukes Hospital as well as in private practice. During the past session of the University College of Medicine, Richmond, he was away from his classes only once or twice when called out of the city professionally. He will give the same attention to his chair of Professor of Clinical Surgery that he did then—always promptly in the Amphitheater at his hour twice a week.

The Atlanta Clinic

Is added to our exchange list with regret that our attention has not been called before to the oversight. It is a 50 cents per annum octavo journal of about twenty-six pages. Dr. J. Arthur Childs shows his ability as editor in the selection of good articles.

Dr. Larkin W. Glazebrook, of Washington, D. C.,

Has been appointed Deputy Coroner for the District of Columbia; and, under a recent Act of Congress, is authorized to assume all the duties of the Coroner in his absence.

Obituary Record.

Dr. William Cecil Dabney

Was born in Albemarle county, Va., July 4, 1849, and died at his residence at the University of Virginia, Charlottesville, Va., August 20th, 1894, after an illness of three weeks, of typhoid fever. He was educated at the University of Virginia, taking his medical degree there in 1868, at the age of 19 years. He next served as House Surgeon in one of the Baltimore hospitals, after which he returned to Charlottesville, Va., and began the practice of medicine. In 1873, he was the Prize Essayist of Harvard College on "Medical Chemistry." The same year he joined the Medical Society of Virginia, and at once became an active and influential Fellow—his papers and discussions at nearly every session till his death being marked by careful preparation and the accurate presentation of facts, from which logical and useful deductions were always drawn. He was an enthusiast with reference to higher medical education; so that his energies were directed incessantly to securing the legislation which established the Medical Examining Board of Virginia, January, 1885, of which he was elected the first President. On the resignation of Prof. James F. Harrison, in 1886, Dr. Dabney was elected his successor as Professor of Obstetrics and of Practice of Medicine, which position he held until his death. On his election to this Professorship, according to a sentiment in the Medical Examining Board of Virginia, which preferred that Examiners should not be connected with any of the Colleges, he resigned his Presidency and membership of the Board, although he never lost an opportunity to say a good word for it. While Professor at the University, he published an abstract of his course of lectures on the Practice of Medicine, a volume of over 300 octavo pages, besides the blank interleaves for the students' notes. As a guide for the Professor of Practice in any college, this volume is very serviceable. He represented the Medical Society of Virginia in the Ninth International Medical Congress, 1887, and was a participant in the proceedings of the Pan-American Medical Congress in Washington, D. C., 1893. He was a member of several of the leading medical organizations, such as the American Medical Association, the Association of American Physicians, the Southern Surgical and Gynæcological Asso-

ciation, etc., an Honorary Member of the West Virginia Medical Society, etc. He was a frequent contributor of valuable articles to the medical journals—many of which were given to this journal. In fact, he had grown to be an authority on questions relating to practice, and was quoted as such. It is singular that the disease which he had most studied, and about which he had written most—typhoid fever—was the one which caused his death.

In 1869, Professor Dabney married Miss Jane Belle Minor, of Albemarle county, Va., to whom were born nine children, of whom seven survive—three sons and four daughters. He also leaves his mother at a very advanced age, a sister (Mrs. John B. Moon), and two brothers—Hon. Walter D. Dabney, Third Assistant Secretary of State, in Washington, D. C., and Dr. Gordon Dabney, Professor in the Hospital College of Medicine, Louisville, Ky. He was a member of Christ Episcopal Church, of Charlottesville, from which his funeral took place August 21st. The interment was at the University cemetery.

In meetings of doctors in various sections, preambles and resolutions extolling his worth and mourning his death have been adopted. Thus at a meeting of the physicians of Gordonsville, Va., on the day of the interment, after eulogistic remarks by Drs. E. H. Lewis, J. W. Scott, J. D. Pendleton, and others, it was unanimously resolved, as an expression of their feelings and convictions, "That in the death of Dr. Wm. C. Dabney, our profession has lost one of its ablest and most honored members, the Medical Department of the University one of its most efficient and popular professors, and the State at large one of the brightest lights in the medical profession."

It is a serious blow to the University of Virginia that so important a chair should be made vacant so soon before the opening of the session on the 15th instant. It leaves too short a time for the Board of Visitors to look around to find the best available man; and, if they find him, it gives too short a notice to the successor to move to the University and then prepare satisfactorily the full course of systematic lectures to be delivered on both Obstetrics and the Practice of Medicine. Last year, just as the session had begun, Professor Towles was taken away by death; but then the University was fortunate in having at hand an Assistant to the Chair of Anatomy, who had himself made a reputation as Demonstrator and as a Lecturer in the Summer School.

Dr. Henry V. Gray

Died at the home of Dr. E. L. Tompkins, Washington, D. C., July 15th, 1894, from cancer of the stomach. His remains were brought to his home in Roanoke, Va., where they were laid to rest. His health had been poor for several years. He was born 1839 in Bedford county, Va. He graduated from the Medical College of Virginia 1860. He entered the Confederate service as Assistant Surgeon, and soon became Surgeon, and as such surrendered 1865. He soon became physician in the Philadelphia Lying-in and Charity Hospital. In 1867, he lectured on Anatomy in the Roanoke College, at Salem, Va., and next year was made Professor—that chair having been created. He resigned in 1869. He was for many years Coroner of the city of Roanoke. He married Miss Edmonia Woltz, of Ashland, Va., who survives him, with ten children. Dr. Gray was a consistent member of St. John's Episcopal Church, a worthy Knight of Pythias, a capable physician, a good man. He was an earnest worker in the Medical Society of Virginia, and a frequent contributor of valuable papers to the journals.

Dr. William A. Frasier

Died at his home, in Staunton, Va., of which he was a native, August 20th, 1894, age 43 years. After graduating in medicine at the University of Virginia, he pursued his studies in the leading English and German universities, paying special attention to diseases of the eye, ear and throat. On returning to America, he held a high position on the staff of the Missouri State Hospital in St. Louis. He then removed to Staunton, where he established himself as a specialist in diseases of the eye, ear and throat, and soon commanded a large and influential practice in these diseases. He joined the Medical Society of Virginia 1892.

NEW HAVEN, CONN., March 17, 1894.

DIOS CHEMICAL Co., St. Louis,—I have used Neurosine in a case of sleeplessness, and obtained results certainly the best I ever had in so short a time. The patient, an aged man, had suffered for many years. It has also relieved his irritableness of temper. THOS. CEIL, M. D.

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Original Communications.

ART. I.—Non-Venereal Syphilis.*

By HENRY A. ROBBINS, M. D., of Washington, D. C.,

CLINICAL PROFESSOR OF DERMATOLOGY AND GENITO-URINARY DISEASES, MEDICAL
DEPARTMENT, UNIVERSITY OF GEORGETOWN.

Last week we had the difficulties in the diagnosis of syphilis under consideration. The more you see of syphilis, the more you will agree with that Scotch divine who, commenting on the text, "David said in his haste, all men are liars," said, "Ah, David! if you had lived at the present time, you would have said that at your leisure."

Some years ago, Dr. Bulkley, of New York city, read a paper before the New York Academy of Medicine, in which he drew the following conclusions:

"Syphilis is not necessarily a venereal disease, but in a considerable proportion of cases is acquired quite unconsciously, and in an entirely unexpected manner. Failure to obtain a venereal history should not lead to the conclusion that certain lesions are not those of syphilis. The

* A lecture delivered at the Central Dispensary and Emergency Hospital of Washington, D. C., on April 12th, 1893.

syphilitic virus can be carried a long distance, and after some time cause syphilis in the inoculated. Non-venereal chancres have been mistaken for epitheliomata, and operations for their removal have even been performed. Non-venereal syphilis often shows great malignancy."

A week ago, I gave at length a report of the case of a little girl, seven years old, who acquired syphilis in a singular way. After accidentally injuring her hand, suffering an incised wound, her uncle put his mouth to the part, thinking that suction would more rapidly induce healing. A chancre, followed by enlarged glands of the axilla and roseola, ensued. Examination of the uncle revealed mucous patches in his mouth.

I alluded to another case, occurring in a Jewish family, in which, after the rabbi had performed the rite of circumcision on a child, a chancre developed, and subsequently mucous patches were discovered in the mouth of the priest.

It will prove interesting to the Gentile, and not foreign to the subject, to give an account of the religious rite of circumcision.

It is performed on the eighth day after birth—with exceptions that will be mentioned further on. Two seats are prepared in the morning, with silken cushions, one for the god-father, who holds the child, the other, as they say, for the Prophet Elias, whom they suppose to assist—invisibly. The person who is to circumcise brings the necessary appliances—the razor, styptics, linen fillet, oil of roses, to which some add a shellful of sand to catch the blood and put the prepuce in when removed. A Psalm is sung till the god-mother brings the child, attended with a crowd of women, and delivers it to the god-father—none of them entering the door. The god-father, being seated, takes the child on his lap; then the Mohel, or circumciser, taking the razor and preparing the child for the operation, says with a loud voice, "Blessed be Thou, Oh Great Jehovah, who has enjoined on us circumcision"; and, on so saying, cuts off the thick skin of the prepuce, and, with his finger nails, tears off another finer skin (mucous membrane) remaining; then

sucking the blood, by putting the denuded glans into his mouth for two or three seconds, and then spitting out the blood into a glass of wine. Then he lays dragon's blood on the wound, with powder of coral, and other styptics, to arrest bleeding and staunch any blood that might flow. Over all he places a fillet or compress, saturated in oil of roses, and then binds up the whole; that being done, he takes a glass of wine, and, blessing it, adds another benediction for the child.

Jonathan Hutchinson, F. R. C. S., who was my former teacher at the London Hospital, in his *Manual of Syphilis* (1887), writes as follows:

"It has been assumed that when syphilis is conveyed to Jewish infants in the operation of circumcision, it is usually due to the practice of the operator of putting the penis into his mouth. It fell to my lot, not long ago, to have to investigate a group of cases, to which this explanation would not apply. The priest who had done the operations assured us that he never sucked the penis, and he was, besides, a man of good age, and wholly free from syphilis. The facts were briefly these: During a period of six weeks, this man had been giving syphilis to his patients—not all of them. He was in large practice, and the great majority of those circumcised by him during this period had wholly escaped. There was an interval of at least six weeks between the first infection and the last. I saw these cases in conjunction with my friend, Mr. Charles Macnamara, and we were shown seven young children, all of whom had the circumcision wound still open, and the symptoms of syphilis on them.

The group illustrated, in a very instructive manner, many of the laws of syphilis, and to these lessons I shall presently advert. In the first place, I will show how the contagion had been effected. We examined, to begin with, the operator himself. He had no sore on his hands, nor had he the slightest indication of having ever suffered from syphilis. His instruments, a knife and then a metal shield, were clean (as might be expected when shown to us), and he asserted that he invariably washed them after each operation. This statement may go for what it is worth, but it will, I think, be admitted to be most improbable that contagion could be conveyed by a knife which was in daily use

over a period as long as six weeks. This consideration obliged us to put aside suspicion as to the instruments.

A clue was given us, in our being told that it was the custom of the priest to take the fore-skin home with him, in order that it might be ceremoniously burnt. Before hearing this, I had got a strong impression that the vehicle of contagion must have been the lint used for dressing. On our asking where he put the fore-skin, he told us that he always placed it in his instrument box, adding, "See here, this is the place." There, sure enough, on the silk lining of his box, were abundant stains of blood, and apparently pus. Here prepuce after prepuce had been placed, the fresh blood of one remoistening the dried up fluids left by its predecessors, and directly on these were laid the strips of lint, which were to be used as dressings. The discovery seemed to fit precisely with the facts. No doubt the beginning had been the circumcision of a syphilitic infant. Our informant told us that, in case of delicate children, the rite was often deferred for some months, and thus it was quite possible that a child, in whom the disease was fully developed, might have been the subject. Probably, however, it is not necessary to have recourse to such a supposition, since the blood of an infant a week old may have had the virus in an active form. It will be seen that the explanation presupposes that the virus may retain its activity for a considerable time—six weeks—and that, too, in spite of its being in a dried state. There is nothing, however, in the least improbable in this."

While on the subject of circumcision, although foreign to the subject under consideration, I cannot refrain from reporting the following as another danger to be apprehended from said operation:

Dr. E. Lehman (in the *La Sperimentale*, October, 1886) reported ten cases of *tuberculosis* in Jewish children, occurring by *inoculation*. The rabbi who performed the operation was the subject of pulmonary phthisis, and it was supposed that the virus was conveyed from his mouth when he applied his lips to the wound to arrest hæmorrhage. In each of the infants, about ten days after the circumcision, the preputial wound became ulcerated, and the inguinal glands became swollen and indurated. Syphilis was excluded by the absence of any secondary symptoms. Two of the children

died of tubercular meningitis, and three had multiple abscesses and died of exhaustion.

Dr. Elsenberg relates a similar case occurring in Warsaw. The preputial wound did not heal, but suppurated, and the inguinal glands became enlarged. Later, an abscess appeared over the left mastoid process. There was no eruption on the skin, and anti-syphilitic treatment gave negative results. The child finally died, and microscopical examination of the diseased tissues revealed the tubercular nature of the affection.

Dr. Van Harlingen, of the University of Pennsylvania, reports the following:

A few years ago, the following case came under my observation, which illustrates the way in which syphilis may obtain entrance to a family quite unawares.

A young girl, returning from a ball, kissed, in parting, the young man who had accompanied her home. She had been suffering from a cracked lower lip, and was consequently not alarmed when a fever blister appeared in the locality a few weeks later. As this did not heal, she sought relief after a time at a dispensary, where burnt alum or borax was applied for several weeks longer, the sore growing larger and harder all the time, and "kernels" appearing under the chin. When I saw her, at this time, the girl had a well marked chancre of the lower lip, with hazlenut-sized induration, and accompanied by enlarged submaxillary glands. On inquiry as to the health of the family, I learned that an infant sister, of whom my patient was very fond, had for some little time past showed "fever blisters" on the commissure of the lips, and, on visiting the house, I found the child suffering with a small chancre of the commissure, together with a general maculo-papular eruption. I at once quarantined the victims of the disease, but too late, as the mother and two more children subsequently showed generalized syphilitic eruptions, and the family remained under my care and observation for several years, showing various early and late lesions from time to time."

In the *American Specialist*, May, 1881, Dr. F. R. Sturgis reported the following:

"Not at all infrequently, syphilis is conveyed in a perfectly innocent manner by innocent people, as witness my

own case (*Amer. Jour. Med. Sci.*, 1873), where a boy, three years of age, conveyed syphilis to his sister, aged six, from the mother's neglect to carry out the precautionary measures she was instructed to do. Since the case was reported, the girl had become emaciated and anæmic, and had developed, when last seen, two years since, periostitis of both tibia. Here is evidently a case where the ounce of prevention is worth the pound of cure.

Another case: A young man with recent syphilis (mucous patches of tongue, lips, etc.) consulted me for his own trouble, and incidentally informed me that his *fiancee* had a curious looking swelling of the lip. What could it be? It could be a good many things; better bring the young lady and let the doctor see her. This, after some persuasion, was consented to, and a typical lesion, with a subsequent macular syphilide, set at rest the question not only of what it could be, but of what it was. Here it had also been done by kissing, in a perfectly innocent and proper manner, and, from ignorance, a rather pretty young girl became the victim of this infernal disease."

Dr. J. J. Cassidy, of Toronto (*Medical Record*, June 29th, 1887), reports two cases of chancre of the lip, occurring in respectable young girls, acquired by kissing the young men that they were engaged to marry. Mucous patches of the buccal mucous membranes existed in each of the candidates for matrimony.

Dr. J. E. Chancellor, of the University of Virginia (*Trans. Medical Society of Virginia*, 1877), reports the following:

"In the spring of 1872, I was called to visit Mrs. B., a lady of good social position, aged 30 years; mother of three children; lymphatic temperament, anæmic appearance. The youngest child was two years old; the second child was five years old and delicate. I found the mother suffering with what she called ulcerated sore throat, with painful deglutition. An examination revealed some inflammation of the fauces, palatine arches, and a swollen condition of the uvula, behind which, in the pharyngeal arch, was a foul, ragged ulcer, the size of a nickel five cent piece. This attack seemed to be but the recurrence of previous trouble of a similar character, which was treated by another practitioner.

The development of this case is not less singular than interesting. The second child, a girl, at this date five years

old, was, at her birth, a healthy, vigorous child, and continued so up to the age of eight or ten months. About this time, it was greatly afflicted with what was considered ulcerated sore throat, involving the fauces. It was allowed to continue at the mother's breast. About this time the mother's nipples became very sore; her general health also seemed to suffer. In the investigation of the train of symptoms, and the causes giving rise thereto, it was discovered that the colored nurse was in the habit of the reprehensible practice of chewing food and putting it in the infant's mouth. It was revealed, alas! too late, that this nurse was affected with secondary syphilis, and was dismissed; not, however, before she had infected the infant, and, through the infant, the mother, as the ragged, sharply cut ulcer in the pharyngeal arch proved conclusively, resisting as it did the persistent use of caustic applications and gargles."

Dr. Tom Robinson, of London, reports, in a recent number of the *Lancet*, the following:

"A medical student, whose face was much disfigured by physiological acne, whilst dressing the out patients of his hospital, assisted in the operation of a circumcision in a case of phimosis. A true chancre was found on the corona. About five weeks afterwards, he noticed a swollen sebaceous follicle on his left cheek, which he believed to be an inflamed acne spot; this he pinched and pressed a good deal, but, as it continued, he became anxious. On inspection, there was found to be a mass about the size of a nuxvomica seed, and somewhat like one in shape, on the left cheek; it was not matted in the surrounding tissue, but could be moved about. The submaxillary glands on this side were indurated, but not those on the other side. Time helped in the diagnosis, and the appearance of a copious roseola, and other troubles, proved the fact that he had inoculated a sebaceous follicle, probably by his own fingers, as he admitted that he frequently squeezed the acne spots."

Dr. M. Rollet mentions the frequent transmission of syphilis among workers in glass, who, in blowing bottles, make use of an iron tube, called a *canné*, which passes from mouth to mouth; in consequence of this practice infections take place, commencing in the mouth.

Dr. M. Hillanèt mentions the case of a patient, a lady, whose morality was above suspicion, who acquired a chancre of the lower lip, followed by terrible constitutional syphilis.

She had drunk from a glass that had been previously used by a woman who was affected by a chancre of the lip. Dr. Hillanet also mentions the case of a favorite medical student, who acquired a labial chancre by placing between his lips a pen that had been soiled by his own fingers, previously in contact with ulcerations.

It is a well-known fact that in Cuba the most expensive segars carry chancre poison, having been licked with the lips by the roller to make the ends secure. Perhaps this fact may solve the question of the origin of *epithelioma*, where the diagnosis and prognosis of certain cases have been so vague and unsatisfactory. I quote the following from the *Times*:

"A prominent physician told me lately that from the practice of segarmakers wetting the wrapper with saliva and biting the end of the segar into shape, a spread of syphilitic disease was taking place; that he knew of several cases. Somewhat alarmed, I managed to visit a number of factories. Two-thirds of the segarmakers I found daub the whole end of the segar with their saliva. Thinking that Cuban workmen might not do it I visited places where they were employed, finding that not only did they use their saliva to make the wrappers stick, but that most of them, before wrapping, bit the end of the segar into shape with their teeth."

Professor Sigmund, of Vienna, writing in 1863, observed that: "There has lately been a run of chancre of the lip at Vienna;" and in 1868, he said again, that these cases are on the increase. In 1850, there was a kind of panic in Vienna, and all secondary sores of the lips were popularly ascribed to direct infection, supposed to come from segars.

At a clinic held in Paris, at the Hôpital St. Louis, Professor Fournier presented a man, who had an indurated chancre of the tonsil, followed by engorgement of the cervical glands, and secondary eruptions on the skin. The primary chancre was evidently induced by a simple cauterization with a stick of nitrate of silver, which had previously been used on a chancre.

In a similar, manner Dr. M. Blauchet, who had a large

practice in Paris, communicated syphilis to twenty-seven persons in passing a catheter into the Eustachian tube; among others, a young girl of high connections, a pupil of Sacre Cœur, was infected, and together with other symptoms, suffered from necrosis of the bones of the nose, but recovered good health subsequently. Blauchet had the habit of simply placing the catheter in a tumbler of water after each catheterization, without otherwise cleansing it.

Professor Alfred Fournier the greatest living syphilographer has reported a series of cases of syphilis, deserving, according to him, the qualifications of "unmerited syphilis" (the syphilis of innocents). There were seven cases, in which the disease was inherited; four in which the disease was accidental—contracted in infancy; eight by infection—transmitted to wet nurses by infants hereditarily tainted; five cases of mid-wives, who had contracted syphilis on their fingers or hands, in the practice of their profession; twelve cases of "domestic contagion"—derived from nursing infants, belonging to nurses or servant-girls that were syphilitic (these twelve cases were all observed in married women or young girls); two cases of syphilis communicated by catheterization of the Eustachian tube; one case consecutive upon rape, and four of unknown derivation, but certainly not of venereal origin. He also reports the cases of one hundred and sixty-four married women "that had been honestly and conjugally infected with syphilis; that is, these women had contracted the disease from their husbands, and without any fault of their own."

The *University Medical Gazette* has the following:

"The initial lesion of syphilis has been reported a number of times in the literature of medicine, as occurring on the eye-lids, most frequently upon the free border of the under lid, and at both commissures. The source of infection has usually been due to kissing—a mucous patch in the mouth being the source of contagion. Chancres have not alone been found in the eyes of adults, but are occasionally found in children. Thus, in an analysis of twenty-one cases of syphilitic lesions of the eye-lids, made by Griffith

(*Medical Chronicle*, 1886), five children of thirteen months or under were affected; in four of them the manifestation was primary, and in one the appearance exactly simulated that of a Hunterian chancre, although the reporter was not able definitely to prove this point. A number of chancres appearing among children in France some years ago, led Baudry to investigate the source of infection. This was found in the not infrequent custom among the attendants of these children, of attempting to cure inflamed eye-lids by moistening them with saliva. Mucous patches were present in the mouths of these attendants, and the palpebral borders were thus inoculated with syphilitic poison. It is a fact not generally known, perhaps, that among certain ignorant and filthy classes the habit of endeavoring to remove foreign bodies from the eye, by means of the tip of the tongue, is not an uncommon practice."

Dr. Motz (*Gazette des Hopitaux*) reports the case of a soldier having an indurated chancre of the eye-lid. The cause a kiss.

Dr. Lee (*Liverpool Med. and Surg. Jour.*, January, 1886,) reports the case of a man, who had a chancre on the left upper eye-lid. "Six weeks before he had gotten some grit in his left eye, which a fellow workman undertook to remove by licking with his tongue."

Professor Fleischer, in the *Lancet*, has recently reported a case occurring in his practice where a man had contracted syphilis from an infected razor in one of the best hair-dressing establishments in Kief. The local Medical Society thereupon decided to call the attention of the sanitary authority to the subject, in the hope that it would make regulations to obviate a repetition of such an occurrence. Another case of the same kind has also been published lately. It was that of a soldier, who had been infected with a primary sore of the chin from being shaved in a public shaving establishment in Tiflis. This case was shown to the Caucasian Medical Society by Dr. Chudnooski.

Dr. MaLaren, in his splendid "Atlas of Venereal Diseases," gives a beautiful representation of a digital chancre, caused by one man striking the mouth of another man who

was a victim of syphilis, and who had buccal mucous patches.

Maury and Dulles, in the *American Journal of Medical Sciences*, January, 1878, reported fifteen cases of syphilis as being acquired in the process of *tattooing*.

Hutchinson, in his "Manual of Syphilis," already referred to, alluded to "erratic" chancres, and says they are usually single. In some cases, however, they may be multiple. "Thus I have in policemen, in two instances, seen several present together, as the result of injuries, received in scuffles with infected men. In another case, a sailor who had fought with a diseased comrade, and had been bitten in many places, had six or eight indurated chancres on his fingers, fore arm, one ear, and chin.

Before bovine virus came into general use, syphilis was undoubtedly communicated through the agency of humanized virus. The literature on this subject is voluminous. One of the most remarkable and lamentable instances of the inoculation of syphilis through vaccination, is that which is now well known as the epidemic at Rivalta. At that place, no fewer than *forty-six* children became affected with syphilis, through the operation of vaccination. (Pachioli, *New Sydenham Society Year-Book*, 1861-2.)

Chancres resulting from the lascivious kisses of an infected prostitute, can be found almost anywhere on the integumentary surface.

The following case is unique: Dr. Leloir, in the *Annales de Dermatologie et Syphilis*, 1882, relates the case of a medical student, in whom the initial manifestation of syphilis was situated between the second and third toes of the right foot. The patient was suffering from eczematous fissures between the toes, and acknowledged contact of the affected part with the lips of a woman who was afterward found to be suffering from mucous patches of the mouth.

The following is reported in the *Gazette des Hopitaux*, December, 1859:

Dr. Guénzol and Dr. Gailleton were prosecuted at Lyons for inoculating a child, not affected with syphilis, with sec-

ondary syphilitic pus. The inoculation was successful; secondary syphilitic symptoms appeared within two months. They were fined for the experiment—one in the sum of *one hundred francs*, the other in the sum of *fifty francs*.

Otis says that mediate contagion of syphilis is common.

“It may be through the medium of a spoon, a pencil, a cane, a kiss, or *dental instruments*. The accoucheur may acquire it through his finger. Nine cases of syphilis of the finger, I published several years since, as occurring under my own observation, and I have seen other cases since that time. Besides this, I have seen at least double that number of cases of syphilis, where no possible source of contagion could be ascertained. A tumbler, or any article in common use, defiled with the secretions of a mouth harboring a mucous patch, coming in contact with a crack or abrasion of the lips of a healthy person, may communicate syphilis through a resulting lesion, which may pass away unnoticed. Any similar contact with the blood of a person in the active stage of syphilis will communicate it.”

Years ago, there was a question whether the blood of syphilitics was contagious or not. To solve this question, Dr. Bargioni, an Italian physician, voluntarily submitted to the experiment. The patient who afforded the material for the experiment was a woman, aged twenty-five years, the subject of well-marked constitutional syphilis. Her arm was washed clean, and no eruption existed on that part. The cephalic vein was opened, and some blood was drawn; lint was dipped in it and applied to the arm of Dr. Bargioni, in which three incisions had been made, just below the insertion of the deltoid. In twenty-four hours, the lint was removed. In four days, all trace of the inoculation was gone. After a few days, he noticed itching, and, on looking at the arm, there was observed a round papule, of a red color, but no induration around it. The papule gradually increased, and, in eight days, was of some size and covered with a slimy scale. Eleven days after its first appearance, the glands in the axilla became enlarged. On the sixteenth day, these glands were larger; and on removing the scab from the papule, a small quantity of serum was found beneath, but no induration around it. On the

eighteenth day, there was an ulcerated surface with a crust on it and a certain degree of hardness at its borders. On the twenty-third day, it was larger and harder, as were also the glands. A month after the first appearance of the papule, he had nocturnal pains in the head, and observed some enlargement of the cervical glands. A week after this, a roseolar rash appeared on the body, and spread all over him, leaving no doubt as to its nature. In another week, the sore was not yet disposed to heal, and the glands were larger. The rash then became copper-colored. Mercury was given, and the sore began to heal.

Dr. E. Harrison Griffin, in an article entitled "Chancre of the Mouth (*Medical Record*, October 1st, 1892,) reports the case of a chancre of the lip, occurring in a boy nine years old, and gives the following history:

"The lad had been playing truant from school, and had amused himself going to the dumping-grounds at the foot of Seventeenth and East River. Here he had gone for beer with a pail for some of the laborers, receiving a few pennies for his trouble; often he would take a sip of the beer while he was carrying it back. One of the parties that sent him must have had a mucous patch of the lip, and some of the virus left on the pail inoculated the boy with the chancre in some open cut that chanced to be on his lip. I paid a visit to this locality, and found that it was customary for the men to drink directly out of the pail. The way the tin is twisted at the edge of a pail makes it a perfect nest for syphilitic virus to lodge in. The tin-cup is made after the same method, and it is found in the public schools, and in Central Park, and wherever water is on tap gratis."

The doctor reports that this patient imparted the disease to his brother, aged twelve, and remarks: "This case is particularly interesting, inasmuch as the inoculation took place through a stick of candy that the elder brother had put in his mouth after the younger one had sucked it." The virus in this case was "carried from the lip of the one to the tonsil of the other."

The doctor also reports that a sister aged fifteen also acquired the disease by kissing her brother—the initial lesion being on the upper lip.

The same author reports the case of an actress who acquired syphilis by applying the same rouge to the lips that was used by another actress who was a victim of said disease. "They both used the same rouge, and applied it by the finger." He also reports seven other cases of non-venereal syphilis—the initial lesion of six being on the lips, acquired in the act of kissing, and one chancre of the lip caused by taking a drink of whiskey from the bottle of a friend who had buccal mucous syphilitic patches.

Stephen Paget, F. R. C. S., in an article published in the *London Lancet*, April 16th, 1892, says: "But the most appalling statements are made as to some parts of Russia: Petersen is reported to have said in 1888, that in the villages in the interior of Russia extra-genital infection occurs in 75 per cent. of the cases of syphilis, and is especially common among children.

"Pospelow, writing in 1889, says that in Kursk extra-genital infection occurs in 85 per cent. of the cases of syphilis, and in Vladimir in 91.3 per cent. (this includes 7.7 per cent. of hereditary cases), and that infection took place by the mouth in 63.9 per cent. of these. Scabinin is reported to have said, at a Medical Congress in Russia in 1887, that of 865 cases of syphilis 201 came of sexual intercourse; 219 were hereditary, and 415 came of herding together and using the things of daily life in common—all eating from one bowl, and passing one wooden ladle from mouth to mouth."

Roussel says: "As regards the later stages of syphilis, thus acquired in infancy, as a rule, it is not severe; whereas in nurses, who are infected by suckling syphilitic infants, the later stages of the disease are usually of marked severity. Pellizzari, who gives a list of sixty-nine nurses thus diseased—'a long list of martyrs'—is of the same opinion. One of them, in spite of careful treatment, fought for six years against repeated outbursts of the disease, and died exhausted, yet free from visceral disease. Plummert gives two cases of nurses who were attacked by tertiary syphilis within a few months of infection. It may be that the se-

verity of the disease in nurses thus subjected to it is due to their health and strength being depressed at the time of infection."

I will now proceed to report some cases in which, as physicians and surgeons, we are more especially interested.

My former instructor, Dr. Samuel Wilks, of Guy's Hospital, reports the case of a surgeon who accidentally cut his finger while operating on a man who was suffering from secondary symptoms, and who himself in consequence took the disease. This surgeon gave it as his opinion that women continue to infect men long after the primary sore has healed.

Diday speaks of the frightful ravages of syphilis in a country village, introduced by a syphilitic infant and propagated by the nurse.

Chancre of the breast is one of the most important of extra-genital chancres, and it is by far the most frequently met with, as the result from mucous patches on the lips of nursing infants.

When attending the clinics at the *Allgemeine Krankenhaus* in Vienna, during the years 1877, 1878, and 1879, I attended several "semesters" of Professor Von Zeissel, one of the greatest syphilographers of the age. This world-renowned man had acquired syphilis while opening a bubo. During the year 1884 he died of cerebral syphilis.

It would be impossible for pen to portray the dangers and horrors of syphilitic infection more graphically than Professor Wm. Goodell has done in a clinical lecture to his students of my dear old *Alma Mater*, the University of Pennsylvania. Dr. Goodell says:

"When I was a medical student, one of the members of my class, just before his final examination, broke out, from head to foot, with an unmistakable syphilitic eruption. He was at a loss to account for it, yet his diploma was at first withheld from him on the ground of immoral conduct. Fortunately, he remembered having had a sluggish ulcer on his finger, which, very luckily, he had shown to a member of the faculty, who, however, made light of it. This fact, together with the fact that he had worked during the

summer vacation in the venereal wards of a hospital, exonerated him. His diploma was given to him, but he was too much disfigured to go on the stage to receive it. Now, mark the history of this man. After taking much medicine, and supposing himself cured, he settled in a Western city and married. To his great dismay, the first pregnancies successively ended in early miscarriages. Then he put himself and his wife upon a long course of specific treatment. The pregnancy that followed this went nearly to term, and husband and wife were very happy. But the curse was yet upon him. She was prematurely delivered of a syphilitic and dead child. Terribly disappointed and disheartened, the doctor fled from his wife's bedside to an upper room of the house and shot himself dead.

I often met in consultation a physician of fine physique and in splendid health. Unfortunately he delivered a woman, whose hand infected him. That physician is now a wreck, dragging one foot behind him, as he hobbles on crutches. It was the old story; first a sluggish and unsuspected sore upon the hand, and next the characteristic eruption, which, like a thunder bolt, revealed the nature of the disease to the unfortunate victim. Then a gummy tumor formed in the brain, followed by aphasia and paresis. Potassium iodide in heroic doses saved his life, but that was about all it did.

I know two other physicians who caught this horrible disease, while in the discharge of their professional duties. One of them lost every hair on his body, from the crown of his head, to the sole of his foot. For years he struggled and strove with the poison. But he finally conquered it, and lived to marry, and to have a family of healthy children around him.

The knowledge of these facts has made me keenly alive to the dangers which physicians in general, and gynecologists especially, incur in the examination, and in the delivery of women. It has also made me very careful to see that all my every day instruments are kept scrupulously clean, for there is no doubt, that careless physicians have unwittingly inoculated their patients by their instruments, and especially by the speculum.

Why physicians who contract this disease in the legitimate exercise of their duties, should as a rule suffer more than those who pay penalty for their immorality, I can explain only in one way. In the former the sore is ectopic, and not being in the usual site, is not recognized early

enough to be controlled by local and constitutional treatment. In the immoral the chancre usually appears on the genital organs, and where its identity is unmistakable."

It is a very remarkable fact that syphilis has never been produced in any of the brute creation. The biped *brute*, man, and not the quadruped brute suffers from it. Very numerous efforts have been made to attain success in such inoculations, though a variety of animals have been made the subjects of experiment. Thus, inoculations have been produced upon the monkey, dog, cat, horse, mule, sheep, rabbit, rat, guinea-pig, and heifer, but invariably without result.

Dr. Rebatel in the *Lyons Medical Journal*, January 8th, 1882, gives an interesting account of how he recently had been making a series of experiments on animals, with a view to test anew the question, whether or not they are susceptible to any of the several venereal diseases of mankind. These experiments have either been performed under his immediate supervision, or with the assistance of his colleagues, and have been controlled and varied in such a way, as to leave no doubt in his mind that there is but one way in which the question is to be answered. He first took some pus from a patient with gonorrhoea, and inoculated it upon the mucous membranes of the eye, the glans, and of the urethra, even injecting some of the virus, into the urethral canal. His subjects were dogs, rabbits, and guinea-pigs. No trace of consecutive inflammation was ever seen. Another series of experiments was performed with material from a soft chancre; the results were negative, as in the former case. Finally he took two hard chancres, that had been removed in the operation of circumcision; then making slits in the inguinal folds of a bitch, he inserted them, sewing up the openings. No symptoms of infection followed. Into the jugular vein of a dog, he next injected one hundred and fifty grammes of defibrinated blood, taken from a patient in the full tide of secondary syphilis. No ill symptoms followed, but in due course of time, these two animals contributed mutually to the production of a litter of puppies

—twelve in number. Nor did these young manifest any congenital disease, or in fact anything but the most exuberant health.

In 1883, my friend and former professor Dr. Isidor Neumann, of Vienna, made a number of attempts to inoculate animals with syphilis, but without success. The experiments were made with the greatest care, the virus being taken directly from the diseased person, and introduced into the body of the animal. The animals experimented upon were kept under observation for a considerable period of time after the inoculation. In no case did any results follow other than those which would naturally appear after an introduction of an irritating material into the tissues. Nothing that bore any resemblance to a chancreous tumor was observed. The animals employed in these experiments were three apes, three rabbits, a horse, a hare, a white rat, a marten, and a cat. The total number of inoculations was fifty-four. Neumann concludes from these experiments that we must regard syphilis as distinctly a disease of man.

1750 *M St. N W.*

ART. II.—The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.

By J. C. LE HARDY, M. D., of Savannah, Ga.

It was about mid-day, August 12th, 1893, that Dr. J. A. Dunwoody, Health Officer of the port of Brunswick, Ga., telegraphed to the Supervising Surgeon-General of the Marine Hospital Service, and Chief of the National Quarantine Bureau, Washington, D. C.: "Assistant Surgeon Branham has yellow fever. Precautions are being taken. Can you send us Carter?"

Assistant Surgeon John W. Branham had been ordered from the Marine Hospital on Staten Island to Brunswick, Ga. When he arrived there, he was placed in full charge of the local quarantine station on August 1st to protect that port against yellow fever.

On the morning of August 10th, Surgeon Branham was himself stricken with fever, thought to be of a malarial type, and was brought to the city of Brunswick for treatment. On the evening of the day following symptoms of yellow fever were first discovered by his attending physician, Dr. Dunwoody, and during the morning of the 12th his diagnosis was confirmed by two local physicians.

The message sent to the National Quarantine Bureau was soon heralded with lightning speed far and wide, and created a feeling of dread everywhere. So great was this feeling of fear and dread that the authorities of the city of Savannah, fully one hundred miles distant, at once enforced strict quarantine against the inhabitants of ill-fated Brunswick, even before any of them, excepting the Mayor and City Council, knew that the disease was in their midst. So intense was the apprehension and fear when the Mayor of Brunswick proclaimed the existence of the fever in the city that a panic at once ensued. The thought of being forced to remain in an infected city, as the people of Jacksonville had been a few years before, so terrified the citizens of Brunswick that, hastily gathering together what few things might be taken with them in a hasty flight, they rushed to the railway trains in the hope of being able to escape the fearful, impending epidemic.

The following letter from a very intelligent and estimable lady, who passed through Brunswick on her way to the Warm Springs, gives a very vivid description of her trials and difficulties on the way, and will convey some idea of the excitement which can be produced by a single case of yellow fever while under the belief that it is a contagious disease:

EXPERIMENT STATION, GA.,
September 1st, 1893.

Dear Doctor,—I was very much disappointed about my visit to you and your wife. I left Darien on Saturday, August 12th, for Savannah via Brunswick, intending to remain in Brunswick till Monday with my friend Mrs. A—, and be in Savannah on Monday en route to the Warm

Springs. When I arrived at Brunswick, Mr. A—— stated that there was a case of yellow fever in the city, and that his wife and child, as well as hundreds of others, had already left. The announcement was made at two o'clock P. M., and this was about half past seven. From the wharf we went directly to the railway station, knowing we had to go somewhere, but not knowing exactly where. My husband, who brought me over, decided to spend the night at Stirling, a station on the E. T. V. and Ga. Railroad. Next morning we realized that Darien would be quarantined, and that we would have difficulty in getting in; so Mr. W. put me on the train and he returned by small boat to Darien.

When near Waycross, where I expected to take the fast mail for Savannah, I found that Waycross had quarantined against Brunswick, and all the passengers were inspected. This delay made me lose the train. As I was not from Brunswick, I was allowed to stay over at Waycross. During the day, I had a telegram from my son stating that Savannah had quarantined against Waycross and I could not get in. He directed me to go to Jessup by the evening train, where he would meet me. This he did, and he put me on a train for Macon. The delays and extra expense I was subjected to everywhere forced me to give up my trip to the Warm Springs. I was just shoved around, not knowing by whom, just as if I was a package of merchandise belonging to somebody else. But inasmuch as I did get to some place, and was made comfortable there, I have no right to complain, as so many were much less fortunate.

I could never describe to you the appearance of things and people at that depot in Brunswick on the evening of the 12th; it beggars all description. My husband said he had never seen anything comparable to it at all since the War. The people seemed wild. Several coaches (11) were added to the train to accommodate the immense number of people leaving their homes. It was impossible for many people to get more than standing room. Numbers of carriages following in line, all filled with people, and drays, piled up with trunks, following them, looked like a funeral procession. Many were leaving comfortable homes who still had not means to be comfortable elsewhere, and most of them, as I heard, left their furniture and clothing, and much they valued, just as they were when the alarm was given. My friend, Mrs. A——, went off so hurriedly that she left much of her clothing behind, and her sister had to

send garments and material from Savannah for herself and child to make them comfortable.

Having been South during two epidemics of yellow fever, the management of things this year at Brunswick, and all over the State, seems very strange. We seem to have lost our identity this time. What is the trouble? Is it that yellow fever is really contagious now? If not, why did a whole city fly from one single case?

Very truly yours, M. J. W.

The question that is propounded by this lady—Is yellow fever really contagious now?—is a very pertinent one. Its voices, as it were, an appeal from millions; and its importance is so great that it ought to have a well-digested and careful answer—based upon the knowledge and light derived from a long personal experience with the disease. In giving an answer to this question, the most reliable historical data alone should be used, as upon such data much that is valuable depends. If it can be demonstrated beyond doubt, and to the complete satisfaction of the mass of our people, that yellow fever is not really contagious, that it cannot be transmitted, like small-pox and scarlet fever, from person to person, it will allay in the public mind all this groundless fear; it will prevent panics and shot-gun quarantine.

In addition to this, it may restore to all the ports along the South Atlantic and Gulf Coast the summer commerce lost to them since 1876, at which time a quarantine of long detention was enforced in the vain hope of keeping the "contagium" from entering the country.

I have undertaken this thankless task. I am now gathering the material for a paper entitled "Why has Yellow Fever become a terror to the American people?" This paper will be published in the near future.

Returning to the history of the case of yellow fever in Brunswick:

In answer to his telegram, health officer Dunwoody received the following: "Carter ordered from Pensacola, Surgeon Hutton from Norfolk."—"Wyman, Supt. Sur.-Gen'l M. H. S."

Surgeon W. H. H. Hutton was the first to reach the spot. On the evening of August the 14th, after making a careful examination of the sick man, he sent this dispatch to the chief: "Arrived this evening on special train; saw Branham; he is very ill; five days taken sick; temp., 103.5°; pulse, 84; skin dry and hot; eyes infected and slightly yellow; tongue dry and stomach irritable, but no hæmorrhagic tendency so far; kidneys acting fairly well; urine, 20 per cent. albumen." This is as clear a description of a severe case of yellow fever on the fifth day as could be desired. What else could it be but yellow fever considering the place, the season of the year and the individual? Because of some unaccountable mistake in judgment, the Chief of the Quarantine Bureau had ordered a man to this post who knew nothing of yellow fever, and who had never been exposed to its infection. And yet Surgeon Hutton did not recognize the disease; for he adds: "All of which is suspicious, the long-continued high temperature being contrary to that of yellow fever"—there was the mistake, for generally the temperature remains high while the pulse is lowered. Feeling the need of an expert, he concludes by asking, "If possible, send Dr. John Guiteras at once."

On the following morning, six doctors were called in to hold a consultation, under the direction of Surgeon Hutton. The participants were required to protect themselves against the "contagion" by donning long, black, rubber coats. It was in this costume that they surrounded the bed of poor Branham, for the purpose of investigating his case! Is it surprising that the man died? Surgeons Hutton and Carter, representing the M. H. S., and being, as a matter of course, contagionists, felt the need of protection. But I am surprised to see that the local doctors, who had seen yellow fever in 1876, should have allowed themselves to be made a party to this lugubrious farce. As it could be expected, these six doctors failed to agree upon the nature of the disease. The surgeons of the M. H. S. could not recognize the case as one of yellow fever. They wanted the opinion of an expert. In the meanwhile, and while laboring under

this doubt, the Branham residence was put under strict quarantine. All the inhabitants within the distance of five hundred feet were notified to "move out," and on the following day a cordon of armed men was placed "around several blocks near the infected house" to prevent ingress and egress. On the 18th, Hutton wired to his Chief: "Cordon extends 600 feet in all directions from foci. Have spent all day disinfecting under and around Branham's and other houses, using seventeen barrels of solution bichloride and one of carbolic." Thus we see that the disease of which Branham suffered was treated as a contagious disease before its true nature was understood, and as a most virulent and extremely contagious disease after the diagnosis of yellow fever had been made. On the 17th of August, Dr. John Guiteras, M. H. S., who had been ordered to Brunswick to act as a yellow fever expert by Surgeon-General Wyman, arrived and examined the patient, who was then moribund, and pronounced it "a fatal case of yellow fever."

Doctors Dunwoody and Henry W. Branham, a cousin of the sick man, and the nurse who had been in attendance on the case from the beginning, were dismissed and sent to the National Quarantine Station at Sapelo Island for a ten days' detention, and Surgeon Carter, M. H. S., and Dr. Hazlehurst and a new nurse put in their stead.

August 20th, Surgeon Hutton, in a letter to the Chief of the Bureau, said: "Now, in spite of the most stringent measures to confine the infection to the Branham house, to-day Dr. Guiteras found a very suspicious case, and to-night pronounces the case 'undoubtedly yellow fever,' all of which goes to show that either it is impracticable to confine the infection to a first acknowledged focus, or else the infection exists in the city independently of Dr. Branham's case, and renders it doubtful if the doctor contracted it at the Quarantine Station."

It is difficult to understand upon what grounds Surgeon Hutton could consider the Branham house as the first focus of infection. Surgeon Branham did not contract yellow

fever there—since he was brought with it from the Quarantine Station; how then could this house be a focus of infection? In a letter dated August 17th, Dr. Guiteras wrote: "I visited the Quarantine Station where the doctor was taken sick this afternoon. I cannot see any positive evidence that he contracted the disease there, except this, where did he get it if not there? Of course, the question of the city infection comes up, and that I have to leave as yet undecided."

It is well known that Surgeon Branham spent much of his time and slept several nights in the city—had an investigation been carefully made of the locality where he spent his nights, there would have been no great difficulty of finding the real focus of infection within the city limits. But this would have forced an acknowledgement of the local origin of the disease.

On August 21st, Dr. Guiteras wired to his Chief: "One case of yellow fever in Brunswick, not connected with Branham's." On the same day, Surgeon Hutton sent him the following dispatch: "Removed the new case to Branham's house, under care of old corps of doctors and nurses. Will disinfect the house where second case developed. I have sent the brother of sick man to South Atlantic Quarantine." The discrepancy in the diagnosis of the Branham case, between the local physicians and the surgeons of the Marine Hospital Service; the extraordinary proceedings by the representatives of the new regime in the complete isolation and disinfection of the house in which Branham was sick—as if he had been suffering with the small-pox; the peremptory orders given to the people to move out of house and home within a radius of 500 feet, when such a measure was unnecessary, and the removal of the attending physicians and nurse to the Sapelo National Quarantine Station, to be replaced by strangers, the appointees of the Marine Service, created a great deal of dissatisfaction among the people, and the feeling was turned into one of profound indignation when the report got abroad that one of the citizens by the name of Harris, discovered with fever at the

Presbyterian parsonage, and which fever was diagnosed as yellow fever by the Sanitary Inspector, Dr. Guiteras, was taken, after a desperate struggle, and carried the distance of one-half a mile into the very room in which Branham had died, while his brother who plead and prayed to be allowed to nurse him, was forcibly taken on board a tug-boat and sent to Sapelo Quarantine Station.

So intense was the feeling against the surgeons, that when the Cox child case was diagnosed "yellow fever," the mother, rather than have her child taken to the Branham house, picked it up in her arms and ran with it into the woods, where, without medical attention, the child got well.

When Harris died, the news spread abroad that he did not have yellow fever, but died from the fright and the treatment he had received at the hands of the surgeons.

There was no foundation for the report, however. E. C. Harris had (as described to me by one of the attending physicians), an unmistakable case of yellow fever, with black vomit, ending with convulsions. An indignation meeting was held, wherein the surgeons of the Marine Service were handled very severely, and for a while the situation was threatening. Through the influence of the Mayor and other interested parties, the thing was patched up, and the following letter was addressed to Dr. Hugh Burford, President Board of Health:

Dear Sir,—I regret to say that the medical officers of the government have reason to suspect that cases of sickness are kept in concealment by their families. The reason for this appears to be the fear that the sick may be removed from their homes. I wish now to declare that such is not the intention of the government officers. They abandoned the policy of the removal of the sick after the third case. This case was not removed, the mother, in her fright, ran away with the child. The protection of the city (?) demanded the removal of the Harris case, but such removals shall not be undertaken hereafter unless the patient cannot be cared for at home, and the family ask for removal to hospital.

Very respectfully,
W. H. H. HUTTON, *Surgeon M. H. S.*

Not long after this episode, Hutton was ordered to some other field by the Chief, and Surgeon Murray put in charge.

ART. III.—Further Experience with Phenacetine.

By W. M. HOLLADAY, A. B., M. D., Hampden Sidney, Va.

Some years ago, attracted by a note of Germain See's in *Le Progrès Médical*, I obtained some phenacetine, and used it in a case of trifacial neuralgia, with marked success. This case I reported in *Virginia Medical Monthly*. Since that time I have continued its use, and have given it for various other ailments,—as, for example, in both remittent and intermittent fevers, as well as in influenza.

I have found it excellent in cases of *enuresis in children*, five grains at bed time, and in the *troublesome, too frequent micturition* where there is enlarged prostate, especially where cystitis is present, the urine being made acid; in such cases I give a large dose, as much as twenty grains, at bed time, with the happy result that the patient sleeps better and does not have to arise so often during the night. I have never used it in cases of irritation of the bladder due to *stone* in the bladder, but would try it had I a case. In *diabetes mellitus*, twenty grains, given morning and night, will largely diminish the flow, and whilst achieving that happy result, the specific gravity of the urine is also diminished. I have never used phenacetine in saccharine diabetes, however, without the help of other treatment, but would like to know the result if any one has tried it alone.

In typhoid fever, I have been amazed at its apparent effects.

Last September, 1893, I was called to see a case of typhoid fever in a negro boy, *æt.* fourteen, temperature 103° – 104° F. with low muttering delirium, "wanting to go home," and picking at bed clothes; when I saw him, on the 6th day I ordered fifteen grains of phenacetine every six hours. The next day or two I saw no change, save diminished fever, due to the antipyretic effect of the drug. On the 16th day, the youth was free from fever, clean tongue, and hungry.

August, 1894, I had in the same neighborhood three cases of typhoid fever, the history of each of the three cases is virtually the same as that above given; evidently all cases

came from the same cause, as three were in one house, while the other was in a house not one hundred yards distant. All the symptoms of illness were gone in the one case on twelfth day; in the other two, on the fourteenth and sixteenth days respectively. I was amazed and doubted my diagnosis, but was encouraged by seeing in a discussion in the *British Medical Journal*, August, 1894, that good results had been obtained in Birmingham by the use of cold baths and phenacetine.

I was using the same drug at the same time in a type of fever that was not typhoid nor malarial, one that more nearly corresponded to the simple continued fever of Murchison, a type I do not find any reference to in Osler's *Practice*, but noticed by Flint, under the head of "febricula," and described more fully by Pepper in the *American System of Practice of Medicine* and other works. But phenacetine (save as an antipyretic), seems to have hardly any good effect according to them.

I am almost convinced that the drug, in the cases of typhoid fever I have seen, did cut short the disease. The patients were comfortable, the tongue quickly cleaning, no tympany, no headache, no trouble with the bowels, except constipation, in any case, and rapidly lessening pain in the iliac fossa. The cases were typical, save the eruption; and as unfortunately all four cases were negroes, I could find none.

I write this in the hope that some who have wider opportunities will try phenacetine in cases like those I have mentioned, and report the results. The cases I have referred to may have all been of the abortive atypical variety of typhoid fever, so ably discussed by the late Dr. Wm. C. Dabney, of the University of Virginia. These four cases had no treatment save the phenacetine.

Never in my administration of phenacetine have I had any bad effects that could be ascribed to the drug. I think from all reports of its effects that have come under my eye and from my own experience, that it is the safest of the coal tar antifebrifuge products that are at present in use.

The fact that it contains so large a per cent. of available phenol makes it especially valuable in all fermentative troubles in the small intestine, especially where pain is present. This, I think, is the cause of its helpfulness in typhoid fever and in diabetes, in bladder troubles, etc. The acid, being eliminated by the urine, has local action on inflamed mucous membrane, but the drug, aside from that, seems to have a soothing effect on the whole genito-urinary system. It can be pushed to any extent, so that the urine does not have the peculiar cloudiness of carbolic acid poisoning. Of course if the heart's action is very feeble, discretion must be used as to the size of the dose and frequency of administration, as with any other depressant.

ART. IV.—Treatment of Typhoid Fever in Private Practice.*

By **FRANK FLETCHER, M. D.** of Jenkins' Bridge, Va.

The prevalence of typhoid fever at this time in our midst should make the question of treatment of interest to all of us.

I know how powerless I feel when confronted, day after day, with a desperate case of typhoid. I appreciate my own helplessness, and, therefore, wish to gain light upon so important a question. It cannot be claimed that the profession, as a whole, is satisfied with the existing results of plans of treatment, even if we find, now and then, some individual practitioner who seems content. The diversity of methods and remedies, which daily appear in the journals, shows a continued unrest and want of confidence in existing methods. Indeed, this, of all diseases, has certainly received universal attention at the hands of the best professional thinkers of all lands and in every age, since the disease was first recognized as a separate affection. It may be considered an opprobrium to our healing art, that no

*Read before the Eastern Shore of Virginia Medical Association, August 28th, 1894.

panacea has yet been discovered by means of which fatal complications, that often attend the disease, may be evaded or cured—a disease that destroys more lives in the aggregate than any other acute infectious disease.

The different methods of treatment most in vogue at the present time may, for convenience, be divided into three, but, of course, parts of each are often utilized by the same practitioner:

First. The *antipyretic*, by the use of the coal tar derivations, etc.

Second. The *hydro-therapeutic*, or cold water treatment.

Third. The *antiseptic*.

Many also pursue the *symptomatic* and *expectant* plans, which may include parts of all the others.

Of the antipyretic plan, by the coal tar derivatives, but little need be said, as their continued and prolonged use has, I believe, been abandoned by the majority of the profession. The temptation to use them unduly is certainly very great, especially by those who do not carefully consider the deleterious effects that may follow their continued use, and in large doses. It is both gratifying to the physician, pleasant to the patient, and encouraging to the friends, to see their immediate effects—making the patient more comfortable, relieving the throbbing brain, moistening the skin and tongue, and quieting the patient into a gentle slumber; but, at the same time, they enfeeble the heart and nerve-centres. Their chief danger lies in the facility with which they may be administered, the rapid and positive results which follow, and apparently so favorable. We should remember that the chief aim of treatment is to sustain the vital powers until the disease has run its course. Were the high temperature the chief element of danger, we would surely find a specific in the powerful antipyretics, whose action will surely reduce the temperature.

Those who practiced medicine long ago know well what comfort venesection gave—all grave symptoms ceased as if by magic—but learned afterward at what fearful cost. Who has not seen hæmorrhage from the bowels reduce the tem-

perature below normal, the skin and mouth becoming moist, but, at the same time, bringing the patient down to the very door of death? Of course, the immediate effect of the antipyretics is not so disastrous, yet it is held by the ablest physiologists and chemists that they act injuriously upon the protoplasm of the blood and reduce the red corpuscles, and we all know they are depressants. It is true that I use them occasionally, at the beginning of the disease, and in robust patients, but always in small doses. I think, therefore, that they have their place when used with discretion, and not too continuously.

With the Hydro-therapeutic or Brandt method, as it is usually called now, by cold baths, I have had no experience; but statistics seem to prove it to be the most successful of all methods followed. They claim, in this country, to have reduced the mortality from 20 and 40 per cent. down to 7 per cent and less; and even Brandt and his followers claim a much less mortality—indeed, of 1,200 cases, he claims not to have lost a single one.

The reports from Johns-Hopkins Hospital say that, with the *symptomatic and expectant plans* of treatment used there formerly, their mortality was 25 per cent., and, by the cold baths they have reduced it to 7 per cent. The effects of the baths, they claim, are two-fold—first, to reduce the fever; second, as a general tonic to the nervous and circulatory systems, lessening nervous irritability, favoring sleep, and clearing the mind; and if thus treated early, the patients rarely have muttering delirium, or other grave symptoms. But those who have used it in this country do not claim that, as Brandt so enthusiastically says, the patient can be kept free from fever—the temperature will rise again in a variable space of time, and the rectal temperature, in some instances, is but slightly affected. But statistics, coming from such sources, cannot be ignored, and are certainly fascinating; and they made a deep impression, while reading them some years ago. Even if I could not, for want of conveniences, use their plan of treatment, or comprehend how it could possibly affect the ulcerated glands, or

ward off dangerous complications that sometimes take place—as hæmorrhage, perforation, etc.—nevertheless, I determined to try and approach the method as near as the inconveniences of a country practice would permit. When the fever runs high, I employ sponging the whole body frequently with water at a reduced temperature, and if the weather is very warm, have it repeated often during the day. While I cannot say that it has lessened the mortality, it certainly is very refreshing and grateful to the patient, and usually followed by some reduction of temperature and refreshing sleep. Patients like it, and often ask to have it repeated. I also use ice liberally on the head and bowels.

The last method that I have noticed is the *antiseptic*, which has lately received much attention, and we occasionally see in the journals glowing accounts of this mode of treatment, in the hands of some, while others declare their expectations have not been realized. Its advocates do not claim that it will abort or shorten the duration of the disease, but will prevent septicæmia, which we are liable to have after the second week of fever has passed. This may be termed “the age of microbes.” All kinds, shapes and sizes are supposed to be the cause of all, or almost all, the ills that flesh is heir to. On theoretical grounds, the antiseptic plan would seem to be the most rational mode of treatment, the indication with this theory being to destroy the micro-organisms, and prevent the production of those toxic bodies, that, being absorbed from the intestinal canal into the blood, give rise to all the typhoid symptoms. But theories and speculations evolved in the laboratory, are often followed by disappointment and failure when tested by time and practice. It seems to me, that the function of antiseptic medication must be essentially local; no remedy has yet been found that can pursue the dreaded microbe into the blood, and destroy its life there, without injury to the patient.

In my own hands, I must say that specific treatment by antiseptics has not given the desired results. I have used

them now for several years, especially the sulpho-carbolate of zinc, which Professor Waugh some years ago declared to be almost a specific in his hands. But, in justice to him, I should mention that he says its use must be commenced at the beginning of the disease, before the dreaded germs have done their work, and continued throughout the whole course of the disease.

I have used salol but little, and cannot speak so confidently of its effects; but sulpho-carbolate of zinc I have used very often indeed. I can say that it is an excellent astringent—the best I have used where the bowels are unduly disturbed. It will certainly deodorize the discharge from the bowels in from twelve to twenty-four hours. But I have failed to note any other good results, such as reduction of temperature, etc. Indeed, I have thought that my patients became worse if the bowels were checked too much. I suppose that more of the toxic matter would be absorbed than if they were moderately open.

By the way, I may say that it is one of the best remedies I have ever used for the *summer diarrhæas of infants* and children. Being readily dissolved, and almost tasteless, any child will take it.

A resume of my treatment of typhoid fever can be given very briefly. Experience has led me to discard any set line of therapeutics. I have no favorite formulæ, or pet remedies. When first called to a patient where I suspect typhoid, I always give quinia in good doses for several days, not only to help confirm my diagnosis, but also in order that any malaria, if present, may be eliminated; also, probably a dose of calomel and soda. I may use some of the antipyretics, in small doses at first, for the patient's personal comfort; and think they are useful, when intelligently given, but not for routine or constant handling. As I have said before, I use cold sponging of the entire body, and ice locally, to reduce the temperature. Recognizing the fact that typhoid fever is a self-limited disease, for which no specific has yet been found, we must remember the troubles that will probably occur, and which must be met, when a

case comes under our care. The principal of these are high temperature, general depression, failure of the heart, insomnia, delirium, diarrhœa, hæmorrhage, etc.

For insomnia, I use ice to the head and probably opium. Diarrhœa, if moderate, and in the early stages, requires but little treatment; but if exhausting to the strength of the patient, I give opium, sulpho carbolate of zinc and bismuth. For hæmorrhage, apply ice to the abdomen, give opium to quiet peristalsis, and ergot, or ergotine by hypodermic injection. I try to sustain the patient's strength from the beginning, and not delay too long, by giving liquid nourishment, such as milk, soups, etc., avoiding all solid foods. Bovinine, I have found one of the best preparations for this purpose, acting both as nutriment and stimulant, as it contains beef's blood, albumen, brandy, etc. Although, I believe more patients die from being over-fed than from inanition, I also use other stimulants when required, in protracted cases. In mild cases, I think they are unnecessary. Also, I often give turpentine in certain well-known conditions, and, I think, with benefit.

It is also our highest duty to prevent, if possible, any new cases from arising in the same family by strict observance of all sanitary precautions, cleanliness, water supply, and the excreta of our patients; and using every available prophylaxis.

Often, attention to all the little details, firmness in having our requests obeyed, well ventilated rooms, clothing frequently changed, as well as the position of the patient, and intelligent nursing, etc., are worth even more than all the drugs that have been lauded as specifics, or that chemists can produce.

The Will of the Late Dr. A. B. Miles, New Orleans, La.,

House Surgeon of the Charity Hospital, of that city, bequeaths \$10,000 to each of the following institutions: Medical Department Tulane University of Louisiana, Charity Hospital of New Orleans, and Hotel Dieu, also of New Orleans.

ART. V.—**Glioma of the Retina in its Second Stage—Its Probable Diagnosis from Leuco-Sarcoma of the Choroid Determined by Age of the Patient.***

By D. KERFOOT SHUTE, A. B., M. D., of Washington, D. C.

DEAN OF THE MEDICAL DEPARTMENT OF THE COLUMBIAN UNIVERSITY, AND PROFESSOR OF ANATOMY, ETC.

Gentlemen:—The case I desire to present briefly to you this evening will not prove interesting in the sense that there were present any peculiar symptoms, for the case was a typical illustration of glioma of the retina as it presents itself to the physician in what is called its second stage.

The study of the sarcomata has a certain fascination of its own; but, aside from this, the presence of a malignant disease is always a matter of grave concern to patient and practitioner alike. Therefore the study of glioma retinae has an intrinsic interest apart from any specially peculiar type that may come under observation.

In the case of this affection—one of the intra-ocular tumors—we are brought face to face with the two horns of a very serious dilemma. Upon the one hand, we are forced to the performance of a mutilating operation; or, upon the other, we leave the patient to certain death, after a varying period of greater or less suffering. As between the two courses, it seems to me that no physician can hesitate which to recommend.

The child, from whom was removed the gliomatous eye which I present this evening, is a little boy, four years old, white, well developed and in perfect health; his personal and family history excellent; not the slightest trace of heredity, directly or indirectly, can be elicited as explaining his malignant disease.

When first seen by me, the pupil was moderately dilated, and one could see, through the transparent media, a dull, white (not *glistening white* as is ordinarily the case) body behind the plane of the iris; otherwise the eye looked perfectly normal; no pain or redness; in short, no glaucomatous symptoms whatever. Even the tension of the eye was normal—a somewhat remarkable fact in view of the large size of the glioma.

* Read before the Clinico-Pathological Society of Washington, D. C.

Apart from the blindness of the eye, the only symptom present, and the one which attracted the attention of the child's parents, was the dull, white body showing through the pupil.

Inquiry into the history of the child, prior to the discovery of the white reflex from the pupil, revealed the entire absence of any symptoms pertaining to the eye—a fact of importance, inasmuch as it has a bearing upon the differential diagnosis between glioma and so-called pseudo-glioma.

Investigation revealed total blindness of the eye. Oblique illumination showed no blood-vessels on the white body, neither did the ophthalmoscope reveal any vessels upon it (an unusual fact.) The ophthalmoscopic examination developed the fact that there was no detachment of the retina. The disc and retinal vessels presented a perfectly normal appearance. The retina and choroid, at portions of the eye other than that occupied by the growth, presented a normal appearance. Refraction of the eye was emmetropic.

The growth was situated upon the nasal side of the right eye, projecting anteriorly and posteriorly, considerably beyond a plane passing vertically through the ora serrata; and, also, considerably above and below the horizontal meridian of the eye. Portions of the growth could be seen, by the naked eye and with the ophthalmoscope, to move in the vitreous humor, when the patient moved the eye.

From this brief account of the clinical history of this patient, I think you will perceive that there could be but one legitimate *diagnosis*, viz.: *glioma retinæ*.

As to the *pathology of the disease*, I think there can be no doubt as to its *sarcomatous* nature. The name *glioma* implies that we are dealing with a tumor arising from the neuroglia (or connective tissue) of the retina. But all sarcomatous growths originate in connective tissue; so there is nothing exceptional, in this respect, about glioma.

Inasmuch as glioma is nothing but a small, round-celled sarcoma, it would seem preferable to speak of *sarcoma of the retina*, instead of *glioma of the retina*.* Sometimes micro-

* I am aware of the fact that some pathologists teach that the neuroglia is of an *epithelioid* character and of *epiblastic* origin, and not a form of connective tissue of mesoblastic origin. Of course, if this were verified, it would be more in conformity with the facts of the case to speak of *epithelioma retinæ* instead of *sarcoma retinæ*. But at present the majority of pathologists consider the neuroglia as a form of connective tissue and of mesoblastic origin.

scopic examination of glioma will reveal a number of large, spindle-shaped sarcomatous cells, among the more numerous, small, round-celled sarcomatous ones.

As to treatment, there is but one method, viz.: *prompt enucleation of the eye*. This was done in our patient.* Dr. Ellyson, who sent me the patient, kindly assisted me during the operation.

Before closing this paper, I desire to refer briefly to some interesting facts that have been revealed by a recent *statistical study* of cases of glioma retinae.

In a series of sixty cases, thirty males were affected, twenty-seven females, and, in three, *sex* was not given. In the same sixty cases, the growth occurred, simultaneously or with short interval, in both eyes in sixteen cases. In forty four cases, the disease was unilateral—seventeen of them in the right eye, and twenty-seven in the left one.

As to the *age* of the patients, nine cases occurred within three months of birth; four cases between the third and sixth months; and thirteen cases occurred during the second year. Only one case is given for the seventh year—the intervening years giving each about three cases.

So you will observe that the *second year* is very interesting as being a *very important predisposing cause of glioma*. In fact, glioma retinae is peculiarly a disease of infancy and early childhood. Yet one case is recorded, apart from the series of sixty cases already referred to, as occurring at sixteen years of age, and another at twenty-one years of age.

This fact introduces a very interesting question—a question I have not seen reference to in any writings. Is it possible to make a differential diagnosis between glioma retinae and leuco-sarcoma of the choroid? The age of the patient would seem to be the most important factor in this differentiation. The white, *glistening* feature may be absent, as in this patient.

* The eye, when enucleated, was hardened in Müller's Fluid, imbedded in paraffin, and sections made, by me, with the microtome; some of the sections were stained with carmine, and some were left unstained; permanent mountings were then made in Canada balsam, which revealed typically a glioma.

If the white tumor occurred in a young child, I would say glioma. If in an adult, I would say leuco sarcoma. Yet the microscope might prove, in an individual case, that I was mistaken. In other words, a leuco-sarcoma has occurred in a child, and a glioma has occurred in an adult.

But this question, fortunately, is only interesting from a diagnostic or pathological point of view. From a therapeutic standpoint, the procedure would be the same, viz.: enucleation.

A most important question to consider, and one upon which statistics throw considerable light, is that of *prognosis*.

Only those cases can be considered as "cured" in which there is perfect health and no recurrence *three years* after the operation. The reason for fixing three years as the limit is that one case has been recorded by Vetsch, in which, three years after the removal of the eye, a secondary growth occurred in the parotid gland, which was decided by microscopic examination to be gliomatous. This interval, it is true, is much longer than usual. In the series of sixty cases we have been considering, the longest period of quiescence was nine months.

The percentage of permanent recoveries in the cases published by different authors varies considerably: thus Vetsch records two out of twenty-five; Luckowicz, five out of twenty-seven; Lawford, eight out of sixty.

In not one of the cases known to have ended fatally was the growth *entirely intra-ocular*. Hence the rule:—Operate immediately after the discovery of the growth, while the tumor may yet be intra-ocular.

A final fact of great interest and practical importance about glioma retinæ is this:—*Shrinking eyes may contain gliomatous tumors*. It is true, the evidence as to this fact is somewhat conflicting. The preponderance of opinion seems to favor the view that they can.

It is extremely difficult to determine, by microscopic examination, whether we are dealing with a degenerating glioma or with the degenerating structures of an eye-ball destroyed by inflammation. If there is any doubt about

the matter, it seems to me that this of itself should make us decide to operate.

Two cases are on record in which both eyes have been removed simultaneously for supposed glioma, and which subsequent examination proved not to be of that nature. It would seem advisable, therefore, in such doubtful cases, to remove one eye-ball at a time, and subject it to examination before excising its fellow.

1321 Q Street, N. W.

ART. VI.—Some Practical Points in Obstetrical Work.*

By WALTER A. CROW, B. S., M. D., Atlanta, Ga.

CLINICAL LECTURER ON ABDOMINAL SURGERY IN SOUTHERN MEDICAL COLLEGE, ETC.

I wish to preface my paper by saying, that we all recognize the necessary individuality that every practitioner of medicine unconsciously acquires, whose time and thought have been given to better qualifying himself for the work in hand. So it is upon this statement that I wish to bring out an expression upon some practical points that we meet with in our routine obstetrical work, viz.—First, *The duties of the physician to the patient during the period of gestation*, and Secondly, *The management of normal labor*.

DUTIES OF THE DOCTOR DURING THE PERIOD OF GESTATION.

Can anything be done or given the patient to render child-birth easy or less dangerous? My attention has been directed to this question, which has been asked me numbers of times by patients, and I suppose the same is true in the practice of every physician—the direct cause of which is the luring advertisements of a number of patent medicine preparations that flood our secular and religious press and fill our drug stores. I think I can candidly say that I am always open to convictions as regards the management of any class of cases. So I have tried to watch the action of a number of these preparations, hoping that I could find some merit by which this class of patients might be relieved of

* Read before the Atlanta Obstetrical Society, August 16th, 1894.

some of the anxiety, pain and dangers incident to childbirth. As the result of this, I feel that I have not altogether wasted my time and energies in this direction without some benefit. My conclusions are:

1. So far as the action of any drug or compound having any effect whatever other than that of restoring the normal functions when indicated, I have never been able to demonstrate in the least.

2. A certain amount of good has accompanied the use of some of these preparations, which I think is not in the least due to the action of the compound, but to the suggestion of the necessity of carrying out certain recognized principles of hygiene and sanitation which patients otherwise would not do, unless they had been given equally as imperative directions by the family physician.

The almost universal habit of *patients not speaking to or consulting their physician until gestation is well nigh complete*, unless there is some serious complication, is a mistake, and one that often causes a great deal of suffering. You all can no doubt recall a number of cases in your own practice that will illustrate this point, such as the presence of albuminuria, or the impaction of a misplaced uterus during the earlier stages, etc.

In regard to *misplacement, in the earlier stages of pregnancy*, the anterior is considered more common than the posterior, and I have been led to believe from a number of cases, that misplacement enters largely as a causative factor in many of our cases of persistent nausea and distress that are so common during the first three months of pregnancy. So our duty with these patients, who place themselves under our care during this trying period, seems to me to indicate that we should give them, instead of any particular medicine or routine prescription, the most explicit directions as to the best means of putting themselves under the most favorable circumstances for maintaining the normal functions of the body. This includes diet, exercise, mental condition, sleep, baths, etc., laying special stress on the importance of keeping the *kidneys, bowels and skin* in a good healthy condition.

THE MANAGEMENT OF NORMAL LABOR.

The old principle as laid down by Meigs, that "meddlesome midwifery is a bad thing" could, with all appropriateness, have added, that *dirty* meddlesome midwifery is a worse thing. I take it for granted that we are all of one opinion as regards the necessity of absolute cleanliness of every thing that enters into the making up of the lying-in room, including the patient and her attendants. My rule of practice is, at the time of expected confinement, to request my patient to take a suitable hip or sitz bath, such as her convenience can afford. When she sends for the doctor, let her take a warm water enema, so as to completely empty the lower bowel. My efforts during the first stage of labor are to satisfy myself in regard to the position of the child (presentation), and to form some idea as to the approximate size of the pelvis: then I leave the patient alone, unless for specific indications from the character and severity of these pains, during the first stage, which I think in some cases justifies the giving of an anodyne—morphia preferable, the anæsthetic, chloroform, the exception at this period.

My observations *in regard to giving chloroform during the first stages* is that it tends to uterine inertia, prolongs labor, so that in many cases delivery with instruments is indicated, both for the safety of the mother and child.

During the second or expulsory stage, I believe the action of chloroform is not only justified, but indicated as a rule, as it does not have the tendency of stopping the pains, as when given during the first stages; except in exceptional cases I have had to discontinue it on account of the tendency to lessen the expulsory pains and lengthen the intervals.

The third stage, the time for and the manner of delivering the placenta and membranes, is of paramount importance as regards thoroughness, for on this alone hangs the tale of many of our cases of subsequent fever and infection. Undue haste in delivering the placenta is rarely called for except in cases of hemorrhage, the time varying according to the conditions from five minutes to half an hour or longer.

The giving of ergot naturally suggests itself at this period, but I shall content myself by saying that I never give ergot before the birth of a child, rarely before the expulsion of the placenta, and in the great majority of cases do not give it at all.

Antiseptics.—This is the most important consideration of the whole management of the lying-in room, and I think is well recognized by the profession; but, like every other good thing in medicine, it is capable of being very much abused in its application in many cases. It is very hard, I well recognize, in many of these cases to know when to begin and where to stop. This is made the more apparent when we examine the results of bacteriologists in their investigation of the possibility of infection from the vagina and external genitalia.

Brieger was the first to demonstrate that the *staphylococcus* might cause fatal puerperal infection. These results were corroborated by Fehling and Döderlein in their investigations of an epidemic in Leipzig in 1887. It was Matthews Duncan that applied the name of *sapraemia* to a certain class of cases where the puerperal infection is due to the putrefaction of retained products; but, aside from this, the great majority of investigators have given as their belief that "the vaginal secretions frequently contain pathogenic micro-organisms."

Dr. Williams, of Johns Hopkins, and Dr. Michel, of the University of Maryland, have recently reported the results of an examination of the vaginal secretions of fifteen pregnant women, and found the normal secretions in only four (4) of these cases; and in eight (8) cases the pus-producing organism was found, the remaining three (3) cases unidentified. These reports, by careful, honest investigators, will, no doubt, prove of great value in enabling the profession to recognize this possible danger, and in using the proper precautionary measures.

Döderlein, the distinguished bacteriologist and obstetrician, in his investigations of the vaginal secretions of 195 pregnant women, found the secretions normal in 53 per

cent.—the remaining 47 per cent. being pathological, as shown by inoculation in animals. As the result of these experiments, Döderlein points out two varieties of vaginal secretions, with the belief that auto-infection is possible from this source, and advocates thorough disinfection before labor. The normal secretions he describes as being a whitish material, with the consistency of clotted milk and acid reaction. The pathological secretion usually has a yellowish or yellowish-green color, is of creamy consistency, and often contains gas bubbles and tough mucus. The reaction is sometimes faintly acid, frequently neutral or alkaline.*

My experience and observation in this work has led me to adopt the following routine as regards antiseptics. While it was not the result of scientific bacteriological investigation, but purely that of practical results obtained in the treatment of about 800 cases, it is nevertheless in accord with the results of our scientific investigators, namely—

First. If the patient tells me that she has no abnormal secretions from the vagina, then I advise a plain douche of hot soft water at the beginning of labor.

Second. If she has an abnormal secretion, then I advise a douche of hot soft water carbolized, once or twice a day prior to expected confinement.

Third. If the secretions are profuse and irritating to the parts, then I advise a local treatment as a means of relief, in connection with the carbolized douche.

Fourth. A 5 per cent. creoline solution I find is the best antiseptic lubricant for the hands of the accoucheur at the time of confinement.

Fifth. I use a dressing of boric acid on absorbent cotton over the vulva, changing it whenever the cotton becomes saturated, and then bathe the external parts with some warm antiseptic solution.

Sixth. I never advise a vaginal douche for the first week

* I am indebted to Dr. Thomas D. Dunn for these statistics, and have quoted at length from his paper on Puerperal Infection.

or ten days after labor in *normal* cases with no rise of temperature.

Seventh. I try to impress upon the nurse the importance of thoroughly cleansing her hands before attending the patient.

While I am convinced that I have gotten the best results in following out this line of management and treatment, still it has been my misfortune in some cases to have to face more or less disappointment, such as the arrest of the flow, rise of temperature, etc., due, as I have thought, to the undue exposure of the patient and using water of too low a temperature in bathing, and to the lack of proper cleanliness on the part of the nurse—especially in families where the nurse in attendance has to be cook, washer-woman, housekeeper, attend perhaps to the numerous wants of older children, etc.

But, in closing this paper, I wish to impress the fact that in these puerperal cases, nature does a great deal in throwing off the material for sepsis to take hold of; and I do not believe in too much interference with the mother in the way of douches and washes repeated too often during the first few days, for it breaks her rest and adds to the already high tension on the nervous system, which is altogether unfavorable to the normal restoration of the functions.

So, in these cases, let us do what is necessary to make the mother comfortable in a cleanly, scientific way, and then we will have done our whole duty, and will get the best of results.

156 Lee Street.

Speak Louder—Bones—Not Stones.

A Memphis public school teacher, says the *Memphis Medical Monthly*, examining her class in physiology, asked, "How many bones in the human body?" Several pupils replied, but incorrectly, when a nervous little boy, over-anxious to answer, shouted, "Two!" "What," said the Miss, "only two bones in the human body?" "Oh, I thought you said *stones*," responded the little fellow.

ART. VII.—A New Perineal Needle

By J. H. KELLOGG, M. D., of Battle Creek, Mich.

SUPERINTENDENT OF THE BATTLE CREEK SANITARIUM.

Those who are still performing perineal operations by the old method of denudation and closure with silver wires—the method of Emmet, or some modification of it—will not be prepared to appreciate the advantages of a good and practical perineal needle; but by those who are accustomed to employ Tait's split-flap method of repairing the perineum, the needle which I have to offer will, I am sure, be recognized as a very convenient and satisfactory instrument.

For a number of years, after adopting Tait's method of operating in cases requiring repair of the perineum, I employed the old-fashioned Peaslee needle, but frequently encountered several difficulties in the use of this needle, the most important of which were as follows:

1. The needle is not sufficiently rigid to give the operator perfect control of it.
2. It penetrates the tissues with considerable difficulty, requiring the application of more force than is consistent with accurate work.
3. The eye faces the tissues so that the threading of the needle, after insertion, cannot be quickly and conveniently accomplished.
4. On account of the shape of the point, the needle makes a large opening, thus increasing the liability to hæmorrhage and infection.

After endeavoring to correct these defects in the Peaslee needle by increasing the curve, strengthening the shaft of the needle at different points, modifying the eye and point in different ways, but without very satisfactory results, it finally occurred to me that all these difficulties would be wholly obviated by adopting the Hagadorn principle, and placing a properly constructed Hagadorn needle of sufficient size upon a suitable handle. Three years ago, I accordingly had constructed several patterns of needles on

this plan, and they have afforded me most excellent results.

The accompanying cut represents the latest pattern of needle which I have had made, and which I find the most suitable of all. It, in fact, seems to me to be perfect in its way. With this needle I have very often completed the re-



pair of an extensive laceration of the perineum (not complete, however), in two and a half to three minutes, and have sometimes completed the operation in two minutes, and never failed to get most satisfactory results. Seven to fifteen minutes is, in my experience, all the time required to repair the most extensive complete laceration, extending an inch or two up the recto-vaginal septum.

I have now used this method in 102 cases, and find it so rapid, so simple, so rational, so sensible and so sure in its results, I cannot understand how any well-informed practitioner can still adhere to the old, tedious, difficult, unnaturally and notoriously unsuccessful method which, when first devised by Emmet, was certainly a most important and valuable discovery, but which has long since been left behind in the progress of rational gynæcology. One case in which I operated successfully had previously been unsuccessfully operated upon eight times by the denudation method. The laceration was complete and extended an inch and a half up the recto-vaginal septum. The laceration had existed for twelve years. So much of the tissue had been cut away by the previous operations, which had left extensive cicatricial masses behind, the operation was somewhat difficult; but I completed it in ten minutes, and the patient made a most excellent recovery, and with perfect control of the sphincter.

Equally good results were obtained in another and similar case of twenty years' standing, upon which three unsuccessful operations had previously been performed.

In the use of this needle, one begins by splitting the

parts transversely with a pair of angle-bladed scissors, following the line of junction of the skin and mucous membrane. A snip with the points of the scissors at the lower angle enables one to introduce the end of the blade of the scissors, which, buried in the tissues, is carried upward on one side as high as it is intended that the incision shall extend—taking care that the scissors are properly placed, the blades are closed, and the incision is completed upon one side. By the same procedure, a like incision is made upon the opposite side; then, with one or two snips of the scissors at the point of beginning, the old cicatrices are cut through, beneath the mucous membrane, of course; then with the two thumbs working in conjunction, the splitting of the tissues is completed, the extent to which the separation is carried upward depending upon the amount of bulging of the posterior wall, or rectocele. Care must be taken to carefully proportion the tissues between the anterior and posterior divisions, leaving a foundation of cellular tissue for both the vaginal and rectal mucous membranes. The denudation being thus quickly completed—one-half minute is all the time usually required—the needle is passed from the left to the right, if the operator is right-handed, being inserted just within the edge of the denuded tissues, and emerging at a corresponding point on the opposite side.

The suture should be introduced from below upward. From three to five sutures are ordinarily required. I invariably use silkworm gut sutures. In ordinary cases, the upper suture does not include the upper angle of the flap, and the suture next to the upper one only catches the angle of the flap, thus leaving an unburied portion on either side. This plan secures a more naturally-shaped perineum than can be obtained by burying all the sutures. From four to five sutures are usually required in cases in which the laceration is incomplete; three or four more are needed in cases of complete laceration.

In operating by this method in 102 cases, a considerable number of which were cases of complete laceration of long standing, I have never met with even partial failure in but

one case. In this case, a large mass of inspissated fæces, nearly the size of the fist, came down into the rectum the next day after the operation, the removal of which resulted in infection of the wound and formation of a small recto-vaginal fistula requiring a subsequent operation.

No one, who has ever seen this operation performed, can fail to approve of it as based upon sound principles, and it will certainly replace the old methods of operation as rapidly as gynæcological surgeons become personally and practically acquainted with it.

ART. VIII.—The Relation of Tight Lacing to Uterine Development and Abdominal and Pelvic Diseases.*

By CHAS. GRAHAM CANNADAY, M. D., of Roanoke, Va.

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This subject is of special interest to the general practitioner as well as to the gynæcologist, while to the race it is of serious importance, so serious as to be already displaying its deleterious results in characters so vivid as to call forth the gravest apprehensions from true philanthropists.

Sommering, of England, almost a century ago, published an article bearing directly on tight lacing and its effects, and recorded no less than one hundred articles by different authors on the subject; since his time, to attempt a classification of all works touching on this subject, would entail no trifling expenditure of time and patience.

The importance of tight lacing, as it exists in civilized countries, as an ætiological factor in pelvic ills, has been lost to view in the mad rush for scientific research and inventive methods. That those countries most progressive in art, science and gynæcology—Germany, United States of America, England and France—should have failed to thoroughly awaken concerted interest in such an important,

* Read before the International Medical Congress, Rome, Italy, 1894.

causative factor of disease, is to be wondered at as much as the perpetuation by the patrons of progress and refinement of so uncomfortable and harmful a relic of barbarism. In the latter case, this is attributable in a vast majority of the cases to ignorance, the victims being novices in anatomy and strangers to physiology; females consider it a light jest when they are informed of its injurious effects.

I shall try to faithfully portray the evil effects of tight lacing, both as a factor in the causation of disease, and as an obstacle to that normal condition of affairs which offers the greatest resistance to the invasion of disease; at the same time contrast the well developed conditions and freedom from pelvic ills in those who do not practice tight lacing, with those frail constitutions, barrenness and invalidism found in its patrons.

Tight lacing is not confined to those who wear corsets, for the clothing may be worn so tight as to do practically the same harm, though in a less degree by its gradual compression.

Tight lacing is not the only cause that may produce mal-development of the uterus and appendages, and occasion diseased conditions, but it is one of the chief factors.

It must be remembered that the uterus and appendages are covered almost entirely by peritoneum, which is susceptible to injury from slight causes; that the construction of the vessels supplying the blood is of such a nature as to favor either anæmia or congestion, in proportion to the degree of compression exerted. To keep in mind, also, the mobility of the uterus and the plasticity of the bones and tissues, with the increased supply of blood the parts should receive, enables us more clearly to comprehend the effects of pressure on an organ requiring rest and freedom to develop during the important transformation of the girl into womanhood. It is at this time, or earlier, that parents allow their girls to commence the use of corsets and use their own ideas, which are generally not moderate as to the degree of constriction.

The corset, as usually worn, is so constructed as to exert

its greatest pressure from above the brim of the pelvis downward, compressing the abdominal walls and contracting the lower parts of the thorax and pushing inwards the costal cartilages, until the seventh and eighth are in close contact—often the eighth overlaps. The liver, being placed above the maximum of constriction, and having the half cubical form, is not displaced downward, but acts, in connection with the unyielding thoracic walls, as a potent means of displacing downward the displaceable organs. [Symington.] Gibson, in 1884, in his *Illustrations on the Chest*, has considered it as readily displaceable, though this must be exceptional. The maximum of constriction occurring, as it does, in the direct neighborhood of the stomach, must seriously affect this viscus. When the stomach is distended, the pylorus is below, and the splenic portion above, the constriction forming the hour-glass stomach at times found in this class of cases—the pylorus being much larger and reaching to a point corresponding to a line uniting the spines of the iliac crests. The duodenum is found near the same lines. The jejunum, ileum and mesentery are crowded into the pelvis along with the transverse and ascending colon. The cul-de-sac of Douglas is filled with the small intestines, which help to antevert the uterus when the rectum is loaded with fæces; also, when the bladder is distended and the rectum empty, the uterus is retro-posed, after displacing the folds of intestines from the posterior cul-de-sac.

The compression is of so considerable a degree as to seriously interfere with the peristaltic action of the intestines; and by impairing their sensitiveness, constipation is produced in a large number of cases. Compression of any part in proportion to its intensity, just in that degree interferes with physiological functions.

From what has been said, we learn:—

1. Uterine development is greatest from eleven to fifteen years of age.
2. Tight lacing is usually commenced about the period of the beginning of uterine development.

3. Corsets, as usually worn, produce both displacement and compression, and are worn through the entire day as tight as can be borne.

4. Displacement and compression interfere with nutrition and development of the pelvic contents more seriously than is generally supposed.

5. Badly developed female, generative organs offer diminished resistance to the invasion of disease, and render physiological work defective and necessarily painful.

The uterus is normally freely moveable and readily displaced by pressure; with the finger on the os, it can be elevated one and a half to two inches. If the dorsal semi-prone, lateral or knee chest position be assumed, we find the fundus gravitating to the dependent part. The bi-manual method is mainly effective by reason of this mobility.

The ligaments of the uterus are composed of such tissues as favor stretching. Compression, continued daily on compressible organs as the uterus and appendages, first diminishes the blood supply by lessening the calibre of the blood vessels; and secondly, by diminishing the rapidity of the flow, the pressure at night being relieved, weakens the walls of the capillaries, rendering them inefficient carriers of the pabulum so necessary for physiological performance of development, and equally well does it render imperfect the attempts by certain systems to transform certain conditions of physiological organs into a state of inertness, viz:—Certain canals, bodies, etc., that should be obliterated.

What would be expected were we to bandage a limb tightly from infancy? The vascular supply of the uterus is more easily interfered with by compression than a limb or foot. Hence we must admit a certain degree of mal-development of any organ which is subject to abnormal compression during its period of development.

Among the Africans, Indians, Chinese, and, in fact, all of the nations who do not practice tight lacing, we find the minimum amount of pelvic diseases, the most perfect pregnancy, confinement amounting to little pain or inconvenience, and satisfactory puerperium with the absence of com-

plications. Generally speaking, those who have practiced in the rural districts for the well developed and healthy, and subsequently in the city for the delicate, badly nourished and poorly developed, where tight lacing is practically universal, will be thoroughly convinced that there is an explanation to be found in some way for the frequency of female ills, in the latter, in contradistinction to its absence in the former. The great interest which has centered about gynæcology in the last score of years, the frequency and severity of pelvic diseases in the female at present, in comparison with the pre-corset era, is a fact for serious consideration, and the increased sterility in high social life is not to be lightly considered.

In comparison with uncivilized nations, customs of distorting development, ours far exceeds, and the deleterious results are not to be predicted by any moderate calculation. If Darwin's theory of natural selections is regarded as teaching the truth, we may, in the future, expect our fair sex to have waists as slim as wasps, and generative organs incapable of performing physiological functions.

That the girl who has practiced tight lacing sufficiently long to hinder development of uterus, is relieved by a course of electricity, massage and gymnastics, properly and timely applied, is offered as additional argument supporting the claim of this paper. It is believed that mal-development of the uterus is necessarily bound to be present in every woman who practices tight lacing to any considerable extent prior to maturity of the uterus and appendages, and it remains to explain how this mal-development conduces to diseased conditions and renders physiological functions of organs incomplete and painful.

Peritonitis—parametritis and perimetritis—may all be described under one head, as they are generally considered as implicating chiefly the peritoneum, which is composed of pavement epithelial cells, basement membrane, connective tissue and vessels, and secretes a serous portion of the blood through stomata that exist between the epithelial cells. That localized inflammation or thickening often exists in

the female pelvic peritoneum, and seldom occurs in any other portion, renders it highly probable that pressure so interferes with its nutrition, by diminishing the blood supply, as to render it peculiarly liable to inflammatory attacks from slight causes. Hence we frequently find the fundus uteri retroverted and bound down by adhesions, or anteverted or anteposed and adhered in virgins. The writer met several cases of this kind, and in each instance tight lacing had been persisted in from twelve years of age. If long-continued friction in old hernial sacs produces localized thickening and adhesive peritonitis, it must be expected the same to result from tight lacing in the pelvic peritoneum; and to this more than to any other may be attributed the increasing frequency and severity of pelvic pain in females accustomed to tight lacing.

Displacements of the uterus find their main cause in tight lacing. We find neither displacements of the uterus, nor many diseased conditions for that matter, of the generative organ in other of the mammalia than mankind. Displacements of the human uterus, however, are very frequent. Frankel found backward displacements present in eighteen per cent. of women examined by him.

As tight lacing produces mal-development of the pelvic contents as well as displacing all displaceable parts, a resume of what has been said in reference to displacements must convince all that tight lacing is one of the most potent factors in its causation.

Menstruation may be affected in many ways by this custom. Amenorrhœa may be the result of a poorly developed mucosa and its adnexa, together with faulty developed ovaries; a condition which, unless corrected, may lead to atrophy. Or we may have congestion with profuse and long flows, or dysmenorrhœa, which is due mostly to mal-development both of the nervous system and muscular and cellular tissues, rendering them inadequate to the physiological labor required. Cancer, so frequently occurring in civilized nations, must have its explanation in some custom peculiar to such civilization. There are embryonic cells in

the uterus that remain through life; they are considered the cause of epithelioma of the cervix, and the cervix, in ninety-eight per cent. of cases, is the seat of cancer, local irritation being its chief generator; tight lacing produces irritation by pressing down the cervix against adjacent parts. According to Hart and Barbour, "up to puberty, the mortality for carcinoma of the sexes is the same. Afterward, the relative proportion of female to male deaths gradually rises till it attains its maximum about the age of sixty years, after which it falls away again."

Miscarriages are frequently due directly to this cause and indirectly to mal-development of the female generative organs, proving their incapacity to nourish the embryo. Lacerated cervix, weak and inefficient contractions of the uterus in labor, protracted puerperium, the result of sub-involution, may usually find their true explanation in this source. The increased frequency of endometritis, sterility, stenosis, erosion and atresia of the cervix and os, the varied aches and pains referred to the pelvis must be largely attributed to this cause. A large per cent. of the growths, cysts, etc., peculiar to the female pelvis, can be traced to mal-development.

Doran has shown that the parovarium is nothing more nor less than nine or ten vertical tubes, six or seven of which have been obliterated and remain as fibrous threads—the remains of the Wolffian bodies. These tubes are lined with cubical or broken-down epithelium, and are lost in the hilum of the ovary below, while the horizontal tubes from which they originate above, may be traced to the side of the uterus, forming the canal of Gartner.

It is no longer a disputed point that Coblentz' para uterine cysts, as well as papillomatous cysts of the hilum, parovarium, and cysts of the broad ligaments, have their origin in these unobliterated ducts and the remains of the Wolffian bodies. Mal-development must necessarily account for this condition of affairs. Waldemyer shows a section of the ovary—Pfluger's ducts that have not developed as they

should have into Graafian follicles, and which may be the point for the origin of an ovarian cyst.

Fibroids and most solid tumors have their etiology in mal-development of the sexual organs. Their occurrence chiefly after puberty and not after the menopause, together with the frequent occurrence of various tumors in the same uterus or appendages, all tend to corroborate the position taken in this article. Time and space will fail me to follow this farther, but the field is a large one.

The great benefit obtained in pelvic ills from electrical treatment is due to its effect as an aid to development. The pain every woman feels, who has practiced tight lacing, on leaving off her corset, is due to the effort of the parts to return to their normal position.

The hand of the Chinese æsthetic, with its long and curling nails; the savages of the east coast of Australia with a bone the thickness of a man's finger and six inches long, transfixing the nasal septum; the natives of Corn Islands, off Mosquito Coast, in Central America, with beards of tortoise shell dangling from an artificial hole in the chin and lips; the Botocudo Indians, the Esquimo and Thlinkeet of Alaska, and many tribes of Africa, by puncturing their lips, nose, ears and chin and applying weights and dilators, resulting in frightful deformities, may have their eccentricities and absurdities; but their evil effects will not compare with those of tight lacing.

The artificial, flattened and elongated occipital portion of the head by bandages worn on infant's heads by the ancient natives of Peru, approach more nearly those of tight lacing in their injurious effects than of any other.

This article is intended to call serious attention to the evil effects of tight lacing, and to urge upon the profession to take some steps that may inform the laity as to the true effects of such fashion; also to present a solid professional front, antagonistic to such a deleterious custom. The fact of tolerating such a custom as tight lacing, which originated in mediæval times, classes us with the uncivilized and barbarous. "Seest thou not what a deformed thief this fashion is?"

ART. IX.—The New Digestive—Peptenzyme.

By T. P. EDWARDS, M. D., of Aiken, S. C.

In taking appetite as a guide in regulating the supply of food, it must not be confounded with a desire to gratify the palate. When the diet is simple and food is not eaten too quickly, a timely warning is afforded by the sense of satiety experienced as soon as enough has been taken; and not only does a disinclination arise, but the stomach even refuses to allow this point to be far exceeded. With a variety of food, however, and especially such as has an agreeable taste, the case is different. Satiated with one article, the stomach is still ready for another; and thus, for the gratification of taste, and not in appeasement of appetite, men are tempted to consume far more than is required, or advantageous to health. There is far more evil to be encountered attributable to too much food being taken than too little. It is only in exceptional cases that the latter kind of trouble is met, while the amount of disease attributable to excesses in eating and drinking is immeasurably great. Seeking for what is pleasurable instead of necessary, the promptings of instinct are overruled, and it is the inclination instead of the appetite that regulates what is consumed. Were it not for the temptation to excess, induced by the refinements of the culinary art, the physician's aid would be much more rarely required. The oppressed stomach, deranged digestion, loaded tongue, vitiated secretions with disordered action of the bowels, a gorged liver, obesity, plethora and their consequences—a sluggish brain, troubled sleep and perverted nutrition—make a clamorous outcry for relief.

The manufacturing chemist just here steps to the front, and, by his skill and tests, fills the want in the physician's armamentarium by supplying him with the physiological remedies which predigest the food consumed, and thus lightens the labor of the stomach and intestines, and hence comes relief.

Albumen has long been regarded as the most important

representative of the protein group. One of its most striking properties is its coagulation upon the application of heat. It therefore exists under two states, i. e., soluble and coagulated albumen. Being generally accepted by physiologists as the pabulum of the blood, or as one of the most important constituents thereof, the aid of the chemist has been invoked, and with success, for a remedy that would render it not only perfectly soluble, but transform it so that it is most readily assimilated. But we must not lose sight of the fact that other equally important and material factors exist which are consumed by man for purposes of repair in the system. I allude to casein, fibrin and myosin, and other tissue building materials.

Let us first take *albumen*. We see it has to change its form before it can be absorbed or taken into the circulation for repair of tissues. Ordinarily in health, the animal economy is sufficient for this work, but we need extraneous aid to benefit our patients, who reach us in an abnormal condition. Then we give them pepsin, but we have only one element disposed of, and we still have fibrin, myosin, fat, starch and sugar, besides other alimentary substances. The stomach is the retort where many of these substances are only changed and assimilated, and they enter the duodenum along with the unconverted albumens, which have passed out of the stomach too rapidly for the full effect of pepsin. These substances, after reaching the duodenum, traverse the whole intestinal tract, and it is there where the major part of the work of digestion and assimilation takes place.

Now we want a remedy to digest every variety of food, and to prepare it for the nutrition of the whole body, i. e., of the brain, muscle and bone. In Peptenzyme, manufactured by Reed & Carnrick, of New York, we have a remedy par excellence for this work. I have fully tested it in two cases of intestinal indigestion, which were as bad as are ordinarily met, and I have several patients now who are rapidly improving under its use.

CASE I.—American, aged 54, fair skin, a resident of lower South Carolina. He is a man of sufficient general intelligence to make careful and close observation of his symptoms. As is usual in these cases, he is fond of pies and pastries—the very things he should avoid—and indulged his appetite in such things inordinately, which soon resulted in a sense of oppression at the pit of the stomach, with great distension, half an hour after meals. Two hours after meals, he would have the usual evidences of development of volumes of gas, of an odorless character, all through the bowels; acidity of the stomach became a constant existing condition, with gloomy state of feelings, which made him very nervous—in fact, all the usual symptoms of a prolonged case of indigestion. After six doses of a drachm each of Peptenzyme, he had no more gas, no more bad feelings, and is the lively, jovial fellow he was before he was sick. He has not been over-cautious in his diet since his recovery, and after ten days' use of Peptenzyme, is what I consider a well man.

CASE II.—American, aged 27; indigestion so aggravated that loss of flesh was noted, haggard look, and serious fears were entertained as to his losing his mind. He had been suffering for eight months. Pepsin he took freely by advice of his physician; also trypsin, ingluvin and all the so-called digestives, which only enabled him to take freely of eggs and milk, but the latter alone with pepsin created great discomfort, and so was abandoned. I put him upon Peptenzyme, and in ten days he had gained nine pounds, his complexion cleared, his eyes resumed their brilliancy, his spirits revived, and, in fact, he became rejuvenated, and calls Peptenzyme the “elixir of life.”

I am using it daily with gratifying results in several other cases of like character, and feel confident that Peptenzyme has solved the problem as the dissolvent of starchy products and of sugar. I am using it on a case of diabetes mellitus, which is now considered more an error of assimilation than of direct molecular change in the substance of the kidney proper.

Clinical Reports.

Case of Neuro-Retinitis with Retinal Ecchymoses, Due Either to Nephritis or to Syphilis—Possibly to Both.

By DAVID WEBSTER, M. D., of New York, N. Y.,

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Dr. G. G. D., æt. 45, a resident of Virginia, consulted Dr. C. R. Agnew and myself on April 8th, 1875. He gave the following history: Three weeks ago, he could see to operate perfectly well. One day he felt a neuralgic pain over the left eye. The next morning he noticed a haze in the infero-nasal portion of his left visual field. He continued his business. The blurring of sight rapidly increased, so that within twenty-four hours the whole field was covered with this haze, or cloud, which increased in density until, in less than a week, the whole field became dark and so remained. A physician examined his eye and saw what he believed to be an opacity of the vitreous humor. He prescribed iodide of potassium. To relieve the pain, he gave him chloral hydrate. He also gave him acetate of potassa, and dropped a solution of atropine into his eye once, causing severe pain.

For some years, he has been subject to headaches, and frequent attacks of something like facial erysipelas. He contracted syphilis during the War through a sore finger. He had enlarged axillary glands. He had an abscess of the neck last December, and has lost his hair. He has a pustular eruption on his forehead and scalp. He never had sore throat or rheumatism. He chews tobacco most of the time when awake, and has indulged in occasional "busts," or "sprees," for the last fifteen or twenty years. He has enlargement and irritability of the heart, which his physician attributes to alcohol. He has no heart-murmur. He generally has nausea in the morning before breakfast, but is all right after drinking a cup of coffee.

R. V.= $\frac{2}{3}$; no glass accepted.

L. V.=Only perception of light.

Ophthalmoscopic examination shows no lesion of the right eye. In the *left* eye, on the supero-nasal portion of the disk, is an extensive patch of exudation, somewhat whitish, obscuring the retinal vessels, and causing those

which are seen in it to have a broken-up look. The supero-temporal edge of the disk is very indistinct; the light, pinkish appearance of the rest of the disk shading off into a white, granular look. The rest of the outline of the disk is also somewhat blurred. Below the disk, there are changes in the retina and choroid.

Critically examining the region about the posterior pole of the eye with a glass— $\frac{1}{24}$, delicate changes are seen in the retina and in the retinal vessels, with punctate ecchymoses and a slight orange tint—these changes gradually fading out in the macular region. The retinal vessels are not tortuous; the arteries are somewhat reduced in size.

We requested the patient to send all the urine he passed in the next twenty-four hours to Dr. Edward Curtis for examination. Dr. Curtis reported as follows:

"April 10, 1875.—Whole amount of urine submitted, $49\frac{1}{2}$ oz. Urea, per fluid ounce, 5.336 grains. Total amount of urea in the quantity submitted, 264 grains (rather under the usual quantity). Reaction acid. Specific gravity, 1013°. No sugar. Slight turbidity from albumen on boiling and by the addition of nitric acid. Deposits—thick, yellowish white, granular sediment, found, on microscopic examination, to be wholly of small, rhombic crystals of uric acid. No casts or other morphological elements were discovered."

The patient returned to his physician in Virginia with a letter from Dr. Agnew, and we did not hear from him again.

As this patient had albuminuria, and was also the victim of syphilis, it is difficult to decide which had most to do with the causation of his neuro-retinitis.

As to treatment, it seems to me that mercury and iodide of potassium were indicated.

Tuberculosis in Cattle.

As bearing upon Prof. E. P. Niles' paper on this subject, in the September number, 1894, of the *Virginia Medical Monthly*, it is stated that the veterinary inspectors of the State of New York, last year, inspected over 20,000 head of dairy cows, and found 685 infected by tuberculosis, and were killed.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

Some Remarks upon Partial Tenotomy of the Superior Rectus.

Time enough has elapsed since the introduction of the term hyperphoria for the journals to have given us more definite information than they have as yet done in regard to the indications for partial tenotomy of the superior rectus, its limitations, and the ultimate results of the operation. The oblique line of insertion of the superior rectus tendon, the triple results of the contraction of this muscle, viz: elevation, adduction and rotation of the eye ball, the relative ease with which its disturbances cause diplopia, its intimate anatomical relation with the levator superioris palpebræ, all warn us that we have in this tendinous insertion an adjustment that should not be, for other than weighty reasons, disturbed.

When we consider the number of times operations have been performed for the relief of hyperphoria within the past ten years, and by operators more or less well appreciating the conditions calling for partial tenotomy of the superior rectus, and more or less carefully regarding the peculiarities of the insertion of its tendon, we are surprised that so few cases of diplopia as the result of their work have been reported. And this is the more remarkable when we consider that the "partial tenotomy system" has more than one active opponent.

George Stevens tells us that "the extreme outer fibres (of the tendon) can be entirely severed, provided the reflection of the capsule of Tenon upon the tendon is not disturbed. By means of the capsule acting as an auxiliary attachment, the tendon is held in position, but is allowed to fall back slightly while maintaining its position to the ball."

While this statement may be true with regard to the

muscles having straight attachments to the sclera, it is little likely that it is an exact observation, as applied to the superior rectus, the oblique line of insertion of whose tendon could not be paralleled in the line of re-attachment formed after the tendon has been entirely severed. The line of force of this muscle in the contraction following section of its tendon must necessarily change the original angle of insertion of the tendon, and variation of this angle of insertion must change, to a greater or less degree, the action of the muscle in elevation, adduction and rotation.

The object of this note is to ask how far experience has shown it to be allowable to operate for hyperphoria with a reasonable certainty of obtaining permanent orthophoria. From the literature of the subject, readers are led to believe that operative procedures do serve, and in practically all cases, to do away with hyperphoria and cause orthophoria, to cause single vision where diplopia (demonstrable with red glass) exists. It is not the purpose of these remarks to cry down all attempts to bring about orthophoria, but there must be limits within which there exists a reasonable certainty of obtaining, approximately and permanently, the object desired, and beyond which operative procedures are not safe.

There is one other point. Are the immediate results obtained from repeated partial tenotomies for small degrees of hyperphoria always permanent? This question has an important bearing on the further question, Is "partial tenotomy" justifiable in small degrees of hyperphoria? In these operative procedures, there is always the possibility of over-correction. We are told that the insertion of a stitch is all that is necessary to do away with the harm thus done.

The following case goes, I think, to show that the immediate results of partial tenotomies are not always permanent; that where a most pleasing temporary result has been obtained, the thinning of the scar tissue in the new line of insertion of the tendon may, after a year or two, cause the

appearance in the other eye of the condition originally existing in the eye operated upon.

A Case of Diplopia Resulting from Partial Tenotomy.—Mr. X., aged 38, consulted me in November, 1893, about his eyes. He told me that about eighteen months previously he had had "partial tenotomy" done on the right superior rectus for 1° of right hyperphoria. The immediate result of the operation was the relief of many unpleasant head symptoms, from which he had suffered for years. Lately his eyes had again begun to annoy him. In November, 1893, I found $\frac{1}{2}^\circ$ left hyperphoria. This was corrected by a prism added to his reading glasses. This prism gave him temporary relief.

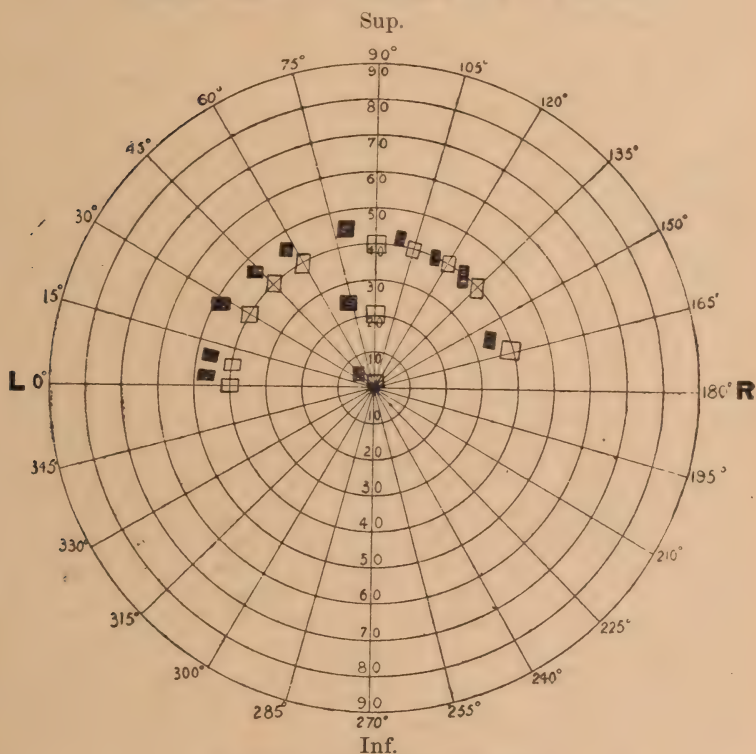
In February, 1894, he noticed that small distinct objects, if above the midplane of the eyes, were all doubled when he attempted to look fixedly at them. Examination revealed the following condition of affairs: Full refractive error O. D. + $\frac{1}{4}$ D. sph. c. + $\frac{3}{4}$ D. cyl. ax. 165° ; O. S. + $\frac{1}{4}$ D. sph. c. + $\frac{3}{4}$ D. cyl. ax. 105° ; with which, under homatropia, $V = \frac{18}{10}$. Esophoria, 20 ft, refraction corrected or uncorrected, was $1\frac{1}{2}^\circ$. Exophoria, for 12 inches, 8° . For $2\frac{1}{2}$ feet, exophoria 0° , esophoria 0° . Left hyperphoria 1° for 20 feet, 1° for 12 inches. Abduction 3° , adduction 16° , for 20 feet; abduction 14° , adduction 20° , for 12 inches. Accompanying is the chart for the diplopia. It was taken on the usual perimeter, radius 15 inches, the patient having the face directed directly forwards and following with the eyes a square disc, 3 mm. broad, as the perimeter revolved, the face remaining motionless.

It will be seen that diplopia exists for all points above the plane; single vision for all points beneath. Furthermore, the higher the disc is carried, the greater the vertical distances between the double images; the horizontal distances between the discs varied somewhat, the action of the superior rectus being not regular. The red disc is before the right eye, showing thus exophoria and left hyperphoria for 15 inches. This double vision has persisted since it first appeared. Mr. X. does not notice it when on the street, but the diplopia exists, and can be demonstrated with the greatest ease. It is so marked in accommodation that the finger doubles at the distance of 10 to 15 inches, if its tip be ever so little about the horizontal plane of the eyes. For distance, this double vision is noticed by Mr. X., as a rule, only in the extreme limits of the upper field. Mr. X. can-

not now (April 14th, 1894) read with any comfort; his eyes are a source of constant annoyance; there is an ever present sensation of "a pull in them"; this pull he cannot localize definitely. There is, however, a sensation of constant pain just behind the lower part of the frontal bone, and also just anterior to the occipital protuberance. Exclude either eye from vision, and the other eye can be turned in any direc-

Red glass before O. D.

Distances between discs varies from $\frac{1}{4}$ to $1\frac{1}{2}$ inches.



Diplopia for whole of upper field.

Chart shows positions of double images at angle of 40° . Also at 20° for one position. Also for disc held just above parallel directly in front of eye. Black areas represent images for O. D.; white, O. S.

tion, up or down, in or out, and can be held in any of these directions indefinitely without producing sensations of discomfort in the fellow eye. Allow the patient the use of both eyes, and he can look downwards without discomfort. Tell him, however, to look upwards, and within a few

seconds a spasmodic action of the left eyelids sets in, the left eye becomes unsteady in its action, lachrymation begins, the left eye becomes painful, and the effort has to be desisted from. This experiment was tried time and again, and always with the same result and in the same order.

April 16th.—Further experiments show that a prism of 3° , base up before O. D., or base down before O. S., can be overcome; while the same degree prism, base down before O. D., or base up before O. S., cannot be overcome; *i. e.*, the resulting double images cannot be fused. Moreover, while patient is looking up, and while his eyelids are quivering, more violently those of the left eye, if a prism of 1° , base up, be placed before O. D., or base down before O. S., the quivering and the spasmodic conditions of the eyes cease, and there results an immediate cessation of the unpleasant sensations about the eyes. Unfortunately, this is only temporary; for, after a time, a few seconds, the quivering of the lids begins again, even though the prism be held in place. All of these symptoms are plainly the result of effort for single vision, which the insertions of the superior recti do not allow for objects in the upper field. I hesitated for some weeks about operating in this case, fearing to make bad matters worse, the diplopia being so evidently the result of the first operation for hyperphoria. Mr. X., however, was willing to take the risks of the operation, especially so, as his eyes had become, for any continued effort, useless, and as his professional duties required their constant use.

On April 18th, I did partial tenotomy in the left superior rectus, trying to cut all of the fibres of the tendon save the outermost. The tendinous insertion proved to be an anomalous one, there being numerous offshoots, tendinous in character, from the inferior surface of the muscle. These offshoots extended backwards along the ball a considerable distance, so that, after the tendon had been cut through, it was impossible to pass a hook along the sclera backwards. These adhesions were all loosened.

April 19th.—Right hyperphoria $\frac{1}{8}^{\circ}$ to $\frac{1}{4}^{\circ}$. Esophoria for 20 feet, 0° . Patient is to-day able to look upwards without quivering of lids and its painful sequence.

As a further history, I need only add that the operation was successful. Hyperphoria 0° . Mr. X. has used his eyes constantly since, without any of the annoying symptoms which accompanied their use before the hyperphoria was corrected. Nor has there been any return of these symptoms up to date, September 1st.

In regard to the case, I wish to say the uncertainty of the result made me unwilling to operate. And it was only after two months' observation of the case, and after repeated examinations, giving always similar results, that I consented to make the attempt. That these symptoms should have appeared at all, after eighteen months of comfort with his eyes, I think must be attributed to thinning of the new insertion of the cut tendon of the right superior rectus, due to absorption of the connective tissue cells in the line of insertion. Mr. X. informed me that when tenotomy was done on the right eye, there had been an over-correction of the hyperphoria, requiring the use of a stitch, which broke, necessitating the insertion on the following day of another thread. These surgical procedures necessarily lacerated to a considerable degree the tendon of the superior rectus, causing unusual adhesions between the tendon and the sclera. It is to the thinning of these adhesions that I would attribute the appearance of hyperphoria in the left eye. The gradual increase, from November to April, in the amount of this hyperphoria, points to this. The appearance of diplopia and the other unpleasant eye symptoms, objective and subjective, point, it would seem, to an irregularity in the line of the new insertion of the tendon, as well as to thinning of the line of union. It is true that partial section of the tendon of the left superior rectus has for the while done away with the diplopia. It is doubtful, however, whether, as further absorption of the scar tissue takes place, it will not re-appear. It may be suggested that we had to do with a case of paralysis of the superior rectus. I think this was not the case.

Croup and All Croupous Diseases Curable by Pilocarpin.

Such is the title of a paper presented by Dr. Sziklai at the Eleventh International Medical Congress in Rome. Dr. Sziklai insists upon a difference between croup and diphtheria. Pilocarpin causes a profuse secretion of physiological mucus between the membrane formed by coagulation of the transudation and the mucous membrane in which it lies, which secretion undermines and thus raises the false

membrane. The false membrane being thus loosened, it acts as a foreign body in the larynx, and is coughed up. The further action of pilocarpin, should, with the elimination of the formed membrane, the diseased process not come to an end, *is to rob the transudation of its fibrin*; so that a reformation of the membrane under the use of the drug is rendered impossible. Dr. Sziklai gives the following doses:

0-1 year,	dose 1-2 centig.	($\frac{15}{1000}$ to $\frac{31}{1000}$ gr.)	pilocarpin	pro die.
1-3 " "	2-3 " "	($\frac{31}{1000}$ to $\frac{46}{1000}$ gr.)	" "	" "
3-6 " "	4 " "	($\frac{61}{1000}$ gr.)	" "	" "
6-10 " "	5 " "	($\frac{77}{1000}$ gr.)	" "	" "
10-15 " "	6-7 " "	($\frac{93}{1000}$ to $1\frac{9}{1000}$ gr.)	" "	" "
Adults,	" 8-10 " "	($1\frac{24}{1000}$ to $1\frac{55}{1000}$ gr.)	" "	" "

Dr. S. further advises the use of pilocarpin in croupous diseases of all mucous membranes. It is indifferent whether the drug be taken by the mouth or subcutaneously injected. The earlier pilocarpin is given, the prompter its results. (Abstract from report given by *Journal of Laryngology*.)

The Influence of Caustic Treatment in Relation to the Removal of Carious Ossicles.

Such is the title of a paper presented by Prof. Ferreri at the Rome Congress. From it the following remarks are quoted: "In all chronic suppurations of the middle ear, operative interference ought always to be preceded by a caustic cure; when this does not succeed, but only then, should we think that the cause of the chronicity depends on caries of the bones. Is it possible to admit that the removal of the malleus and the incus can have so much efficacy in tubercular lesions of the attic, of the mastoid antrum, and of cholesteatomous collections in these cavities as to be sufficient of itself to check the suppuration? This operative influence will modify the drainage of the middle ear, but, in order to arrive at its cure, further treatment will be necessary, directed towards combating the morbid process located in the higher parts of the ear; that is, behind the membrana floccida of Shrapnell. The anatomical structure of this region is such that numerous loculi of pus are formed in the folds of the mucous membrane, which

retain inflammatory products even when the malleus and incus have been entirely removed. Consequently, there is probably no chronic suppuration of the mucous membrane lining the attic which has not a substratum of caries in the neighboring osseous parts." He then formulates his conclusions:

1. That intra-tympanic surgery is chiefly indicated in the treatment of the results of chronic purulent otitis media.

2. That extra-tympanic operative treatment secures more surely the cure of chronic suppuration of the middle ear, of the epi-tympanum, and of the antrum.

3. That excision of the carious ossicles is not always a radical cure of suppurations in the tympanic cavity, when the walls of the attic and of the antrum are also carious, and when these cavities contain cholesteatomata.

4. That caustic treatment should always be carried out before proceeding to the operative treatment, whether extra- or intra tympanic, in chronic suppurations of the cavity; and that this treatment may be sufficient to eliminate carious ossicles, and so spare an operation."

(From *Journal of Laryngology* for May, 1894.)

Subnormal Accommodation.

Theobald (*Annals of Ophthalmology and Otology*, July, 1894) again calls attention to the necessity for recognizing that the accommodative power may be subnormal. "The vertical diplopia test at the reading distance, with normal eyes, should show, as compared with the result at 20 feet, a difference in favor of the external recti muscles of from 3° to 5°." "As might be supposed, subnormal accommodative power may exist apart from, or be associated with, refractive errors." "In glasses, we have the means of remedying the defect. If emmetropia be present, convex glasses, for near vision only, are indicated. In hypermetropia, stronger glasses for near vision than can be worn in distant vision may be called for; and in myopia, weaker glasses must be prescribed for reading than would otherwise be given." "Whether convex or concave, they should be of such

strength as to give, at least, the minimum amount of normal exophoria for the reading distance, say, 2° or 3° ."

Gradually more and more light is being thrown upon the field containing the solutions of the vexed problems of muscular and refractive anomalies. Most of the questions relating to the measurements of simple hyperopia and myopia have been satisfactorily answered. Measurement of corneal astigmatism can now be accurately done. The determination of lenticular astigmatism, its relative frequency, whether nuclear or cortical; the refraction in conical cornea, in lenticonus, still offer interesting questions for solution. George Stevens called attention to the necessity for correction of faulty equilibrium of the outer muscles of the eye. He thus opened a wide field for investigation. This has resulted in recognition of the importance of considering together the refractive condition and the muscular equilibrium. Savage has done much to emphasize this point. Duane, in a late paper, says: "We should distinguish between a heterophoria, due respectively to paralysis, spasm, accommodative anomalies, and an excessive relaxation or tension of the muscles, induced by faulty anatomical conditions." In other words, when we are dealing with heterophoria, we must bear in mind that we have to do with a condition the result of the existence of muscles, and that the eye muscles may be affected just as muscles in other parts of the body. They may vary, within limits, as to the place of their origin and insertion, as to the character of this insertion; *e. g.*, whether by broad or narrow tendons; paretic or paralytic conditions of one or more muscles may have caused compensatory hypertrophy of others; there may exist developmental anomalies, spastic conditions, etc., any of which may serve as the cause for heterophoria. Each pair of eyes, then, are a law unto themselves. The problems involving heterophoric conditions are many, and each problem has to be solved from the data the individual case furnishes, and these data become more and more ample, just in proportion to the care with which the case is considered.

Just as the accommodative power may be relatively subnormal, so, too, it may be relatively hypernormal.

The most marked case of subnormal accommodation with which I have met is that of Mrs. M. Refractive error represented by O. D. + 1 D. sph. c. + $\frac{1}{8}$ D. cyl. ax. 45° , and O. S. + 1 D. sph. c. + $\frac{1}{8}$ D. cyl. ax. 135° , with which $V = \frac{8}{10}$. Esophoria for 20 feet, 7° , of which the correcting glasses do away with 3° . At 12 inches, the esophoria amounts to 20° , without correcting glasses.

Many writers on the subject of heterophoria claim that the prism tests are unreliable, giving now esophoria, now exophoria, now revealing marked hyperphoria, while the day before none existed. Where differing results, save those of degree, which, within limits, are to be expected, have been obtained, it will, as a rule, be found, after due consideration of the case, that there exists a sufficient explanation.

In testing with the various prisms to obtain the ocular equilibrium, we must take into account two personal equations: that of the examiner and that of the person examined. The former of these two equations has to do with the qualifications of the examiner for appreciating the tests he is making, and his ability to interpret the results obtained; it involves also the care given to the case by the examiner and the apparatus used in the tests. The latter has to do with the patient's ability to appreciate what he is to do and his accuracy in observation. (There are some people who seem to find it impossible, when undergoing an examination in a doctor's office, to describe the relative position of two lights.)

Implicit Faith in the Doctor.

A Limmerick fellow went to the undertaker to order a coffin for Pat O'Neal.

"Dear me," said the undertaker; "is poor Pat dead?"

"No—not dead yet," answered the fellow of Limmerick; "but he'll die to-night, for the doctor says he can't live till morning, and the doctor knows what he prescribed."

Proceedings of Societies, Boards, etc.

Tri-State Medical Society of Alabama, Georgia and Tennessee.

The Sixth Annual Meeting will be held in the ball-room of the Kimball House, Atlanta, Ga., October 9th, 10th and 11th. Reduced rates on the railroads from all points in the South. Members of the profession are all invited.

The following is the list of papers:

Responsibility of a Class of Criminals from a Medico-Legal Point of View. Dr. J. C. LeGrand, Anniston, Ala.

Treatment of Stricture of the Urethra by Electrolysis. Dr. P. L. Brouillette, Huntsville, Ala.

The Obstructive Urinary Diseases. Dr. W. L. Gahagan, Chattanooga.

Urethral Surgery Ten Years Ago and To-day. Dr. T. C. V. Barkley, Chattanooga.

Reflex Neurosis in the Male. Dr. Andrew Boyd, Scottsboro, Ala.

Pathological Import of Albumen in the Urine. Dr. E. B. Ward, Selma, Ala.

How to Do Abdominal Section Without Fuss, Feathers, or Foolishness, and with Immunity from Sepsis. Dr. Jos. Price, Philadelphia.

Puerperal Septicæmia with Cases Illustrating the Several Varieties. Dr. J. R. Rathmell, A. M., M. D., Chattanooga.

Reform in the Treatment of the Neurotic and Insane Viewed from the Gynæcological Standpoint. Dr. Chas. A. L. Reed, Cincinnati.

Essentials of Obstetric Nursing. Dr. R. R. Kime, Atlanta.

Pernicious (or Inveterate) Vomiting of Pregnancy. A Plea for the Mother; Based on Cases in Actual Practice. Dr. E. A. Cobleigh, Chattanooga.

Induction of Labor to Prevent Blindness. Dr. Frank Trestler Smith, Chattanooga.

Slaughter of the Innocents. Dr. E. van Goidtsnoven, Atlanta.

Prognosis and Treatment of Placenta Prævia. Dr. Richard Douglas, Nashville.

Uterine Cancer. Dr. George R. West, Chattanooga.

Treatment of Uterine Fibroids. Dr. W. Gill Wylie, New York.

Report of Some Rare Surgical Lesions Connected with the Liver. Dr. John A. Wyeth, New York.

Treatment of Stone in the Kidney. Dr. W. E. B. Davis, Birmingham, Ala.

Tuberculosis of the Kidney and Bladder. Dr. H. Berlin, Chattanooga.

Some Cases Leading to Invalidism in Women. President's Address. Dr. J. B. S. Holmes, Atlanta.

Amputation of Mamma for Carcinoma and Treatment of the Axilla. Dr. B. W. Bizzell, Atlanta.

Excision of Malignant Tumors of the Breast. Dr. Willis F. Westmoreland, Atlanta.

Some Remarks Upon Brain Surgery, with Report of Cases. Dr. Paul F. Eve, Nashville.

Surgical Treatment of Empyema. Dr. J. A. Goggans, Alexander City, Ala.

Some Points in Rectal Surgery. Dr. J. M. Mathews, Louisville.

Appendicitis—Its Surgical Treatment, and Report of Cases. Dr. R. J. Trippe, Chattanooga.

Treatment of Injuries and Inflammation of the Joints. Dr. Wm. L. Nolen, Chattanooga.

Burns and Treatment Thereof. Dr. T. Ellis Drewry, Griffin, Ga.

Is there Danger of not Getting Good Union after Tenotomy. Dr. C. W. Barrier, Columbus, Ga.

Hygienic Treatment of Syphilis. Dr. T. M. Baird, Hot Springs, Ark.

Mixed Infection. Dr. M. B. Hutchins, Atlanta.

Electro-Therapeutics. Dr. J. P. Stewart, Chattanooga.

Headaches—Their Etiology and Treatment. Dr. R. P. Johnson, Chattanooga.

Migraine—Its Etiology and Treatment. Dr. Hugh Hagan, Atlanta.

Tuberculosis of the Nasal Bones. Dr. B. F. Travis, Chattanooga.

Adenoids and Their Sequelæ. Dr. Arthur G. Hobbs, Atlanta.

Paresis and Paralysis of the External Rectus of the Eye, Report of Two Cases. Dr. Dunbar Roy, Atlanta.

Hydrastis Canadensis in Diseases of Mucous Membranes. Dr. P. R. Cortelyu, Marietta, Ga.

Combination of Carbolic Acid and Camphor as an Antiseptic and Local Anæsthetic. Dr. William Perrin Nicolson, Atlanta.

Treatment of Pneumonia in Children. Dr. Frank S. Parsons, Philadelphia.

Treatment of Small-Pox. Dr. C. H. Holland, Chattanooga.

Some Practical Points in the Treatment of Typhoid Fever. Dr. James B. Baird, Atlanta.

Hygiene of the Hospitals and Prison Camps of the Georgia Penitentiary. Dr. W. O'Daniel, Atlanta.

Outline of the History of Medicine and Surgery in Georgia. Dr. L. B. Grandy, Atlanta.

Unusual Nervous Phenomena in a Case of Fracture of the Fifth Cervical Vertebra, with its Pathology. Dr. W. C. Townes, Ph. B., M. D., Chattanooga.

Treatment of Typhoid Fever. Dr. John Elliot Woodbridge, Youngstown, Ohio.

The Early Symptoms of Phthisis. Dr. L. B. Barbour, Montegale, Tenn.

The Importance of Early Treatment in Cutaneous Cancer. Dr. A. R. Robinson, New York.

Non-Venereal Syphilis.

The following item on "*The Danger of the Communion Cup*," taken from the *Medical Record*, September 1st, 1894, bears so significantly upon the subject of Dr. Henry A. Robbins' paper in this October issue, that it should be incorporated in it, immediately following "Griffin's cases"—those caused by mucous patches, etc.: "The following telling experience, detailed by Dr. Albert S. Ashmead, in a recent letter to the *Sun*, points its own moral: 'The last time I knelt at the communion altar of the Episcopal church, there knelt at one side of me a patient whom I knew, as I was treating him at the time, to be syphilitic; his mouth had mucous patches, which make the disease especially contagious. This person took the cup before it came to me. Of course, I let the cup pass.

"'At another time, the person next to me, but following me in the use of the cup, was also a patient of mine, in an advanced stage of tuberculosis. The mouth of this person was in a condition dangerous to his neighbor.'"

Over-Modest Female Physician.

It may be too good to be true, but "it is going the rounds," nevertheless, that a handsome young lady stepped into the office of the young bachelor Secretary of a State Medical Examining Board.

She (modestly): "Are you the Secretary of the — State Board of Examiners?"

He (bashfully): "Yes, ma'am."

She: "I want a license to practice medicine in this State."

He: "You will have to be examined first."

She: "By you alone?"

He: "No, ma'am; before the full Board of Examiners."

She: "Before the whole Board? Why that is terrible—I cannot consent. I was hoping you alone would do it."

*Analyses, Selections, etc.***Potassium Permanganate, the New Antidote to Morphine. Report of Experiments.**

Graham Chambers, B. A., M. B., of Toronto, Professor of Analytical Chemistry and Toxicology, Ontario College of Pharmacy; Lecturer in Organic Chemistry and Toxicology, Woman's Medical College, writes as follows to the *Canadian Practitioner* September, 1894:

This article was originally suggested by the published results of certain experiments carried on by M. J. Anthal, an Alsatian chemist, in which he claimed that potassium permanganate was an efficient antidote to a number of alkaloids, as well as to phosphorus and oxalic acid. These investigations were further continued by Dr. Moore, of New York city, in a report as to action in particular on morphine, and he further compelled attention, professional and otherwise, by taking three grains of morphine openly, followed by the antidote, and sustaining no ill effects through the action of the drug.

I might state here, before describing my experiments, that they confirm those of Dr. Moore as regards morphine; at the same time, I have brought out some new facts that may be of use to the profession.

To discuss the subject thoroughly, it is advisable to first consider the chemical properties of morphine and potassium permanganate which pertain to their action upon one another.

Of all the vegetable alkaloids, morphine is the most easily oxidized. Indeed, it is so easily acted upon by oxidizing agents that iodic acid HIO_3 will oxidize it, iodine being liberated. This is a distinguishing test for morphine. I might say that a ptomaine has been recently isolated which has a similar action upon iodic acid.

Potassium permanganate $\text{K}_2\text{Mn}_2\text{O}_8$ is one of our most active oxidizing agents, as it corresponds to manganese heptoxide Mn_2O_7 . Now, when this comes in contact with any substance which is capable of oxidation, it gives off oxygen, becoming reduced to one of the lower oxides of manganese, or, in the presence of acids, to salts corresponding to the lowest oxide.

The action of potassium permanganate upon some alkaloids is fairly well known. With quinine, cinchonine, quin-

idine, and cinchonidine, it forms pyridine tricarboxylic acid (1, 2, 3). In order to ascertain the action of potassium permanganate upon morphine, I performed the following experiments:

Experiment 1.—I dissolved half a gramme (7.7 grains) of morphine hydrochloride in 250 c.c. of water, acidified with hydrochloric acid. Then I gradually added a solution of potassium permanganate of same strength, *i. e.*, 2 grammes per litre. At first the violet color quickly disappeared, but as I added the permanganate the color disappeared more slowly. When an equal quantity of permanganate was added, the violet color remained for two or three minutes. When the solution became colorless, I tested part of it for morphine by adding ferri chloride and then potassium ferri cyanide, which is a test, delicate to at least 1 in 100,000. I also confirmed the result by making the remaining part of the solution alkaline with potassium carbonate, shaking with a mixture of equal parts of ether and acetic ether, separating the ethers, allowing the ethers to evaporate, and testing residue for morphine, with negative result.

From these experiments, we conclude that morphine is decomposed by potassium permanganate, and the question arises, what becomes of the morphine? One chemist states that it forms pyridine tricarboxylic acid $C_5H_2N(COOH)_3$. However, that does not appear to be correct.

Experiment 2.—I added to the solution, as in Experiment 1, white of egg, cane sugar, grape sugar, starch, and acetic acid. I then repeated the experiment, using the same quantity of potassium permanganate, with the same result as in Experiment 1.

Experiment 3.—Next, to determine the action when potassium permanganate is added to a neutral solution of morphine hydrochloride, I dissolved 1 decigramme of morphine hydrochloride in 100 c.c. of water, and gradually added the potassium permanganate solution. At first the liquid appeared green, due to potassium manganate. Afterwards a bulky, black precipitate, which consisted of manganese dioxide MnO_2 , and manganous manganite Mn_3O_4 . When the solution remained violet for a minute, I filtered and tested the filtrate for morphine, with negative result.

Having proved that morphine was decomposed by potassium permanganate, I performed the following experiments with a view of ascertaining the toxic action, not only of morphine and potassium permanganate, but also of the new substance or substances formed by the action of potassium permanganate on morphine.

Toxic Action of Potassium Permanganate.—As a rule, a chemical antidote must not be an active poison to be of therapeutic use. When a strong solution of potassium permanganate is applied to a mucous membrane, it corrodes it. However, a dilute solution (1.500) has no corrosive action, as may be shown by holding it in the mouth several minutes without corrosion of the mucous membrane, nor discoloration of the permanganate. With a view of ascertaining its toxic action internally and hypodermically, I performed the following experiments:

Exper. 4.—To dog of 39 lbs. I gave 6 grs. of potassium permanganate dissolved in 6 oz. of water by the stomach, without any deleterious result.

Exper. 5.—Two days after I gave the same dog 3 grs. of potassium permanganate subcutaneously in the neck. In about two hours he appeared drowsy and weak. Next morning, fourteen hours afterwards, the dog vomited, and showed muscular weakness and inco-ordination. The latter was so marked that he had to support himself against the fence. Micturition was frequent, and the urine was found to contain bile-coloring matter and a very small amount of albumin. These symptoms remained constant for about thirty-two hours, when he gradually recovered.

Exper. 6.—To a dog of 20 lbs. I gave 5 grs. subcutaneously. The symptoms were similar to those in Experiment 5, but more marked. The dog died in the night, thirty-eight to forty-four hours after the administration of the drug.

Toxic Action of Morphine.—*Exper. 7.*—To 39 lb. dog I gave, subcutaneously, 5 grains of morphine hydrochloride. In about half a minute the dog appeared excited, and kept moving his tongue and jaws, with a free flow of saliva, which was followed, in about five minutes, by deep sleep, which lasted about three hours. Nearly all reflex actions were abolished. The respirations were more frequent than normal at first; afterwards, less frequent. When the narcosis was passing off, the dog would occasionally start up, especially at any noise. Afterwards the dog suffered from partial paralysis of hind legs. With drooping tail, he appeared to drag his hind legs after him, assuming the position known as "hyenoid."

Toxic Action of the New Substances Formed by the Action of Potassium Permanganate on Morphine.—*Exper. 8.*—I dissolved $\frac{1}{2}$ gramme (7.7 grs.) of morphine in about 250 c.c. of water, acidified with hydrochloric acid, and then added

$\frac{1}{2}$ gramme (7.7 grs.) of potassium permanganate dissolved in same quantity of water. When the solution became colorless, I added potassium hydrate until alkaline, which precipitated the manganese. I then filtered and washed precipitate with hot water. The filtrate was evaporated down to about 50 c.c., which I injected, subcutaneously, into a dog, without any marked symptoms.

Exper. 9.—Four days after the preceding experiment, I gave the 39 lb. dog, by stomach, 5 grains of morphine hydrochloride, and then, immediately, 6 grains of potassium permanganate dissolved in about six ounces of water. No symptoms of morphine poisoning followed, nor were there any other symptoms except one or two ineffectual attempts at vomiting.

Conclusions.—(1) Potassium permanganate in dilute solution, not stronger than 1 gr. to an ounce, may be given by the stomach without danger.

(2) Potassium permanganate, subcutaneously, is poisonous.

(3) Potassium permanganate, grain for grain, completely decomposes morphine, the decomposition occurring in acid media more rapidly than in a neutral medium.

(4) Foodstuffs and acetic acid do not interfere with the decomposition.

(5) Potassium permanganate is an efficient antidote if taken while the morphine is in the stomach.

The question still remains as to whether potassium permanganate is of therapeutic use after the morphine is absorbed into the system. It has been proved conclusively that if morphine is introduced subcutaneously into the system, it is excreted into the stomach. Now, the morphine passes from the blood into the stomach by osmosis and by excretion, and, by the principle of osmosis, more morphine will be excreted if it is decomposed as soon as it passes into the stomach. Reasoning on this principle, we would expect that repeated small doses of potassium permanganate by the stomach would be of use in cases where the morphine has been absorbed into the system. This is rendered more probable by the fact that morphine, as a rule, is a slow-acting poison.

Bacteriological Investigations of Diphtheria in the United States.

Prof. Wm. H. Welch, of the Johns Hopkins University, of Baltimore, presented a "Report in Behalf of the American Committee on Diphtheria to the Eighth International

Congress of Hygiene and Demography, held in Budapest, September 1 to 9, 1894," which we find in the *American Journal of Medical Sciences*, October, 1894, covering 35 pages. Our limits permit us only to present a *Summary*.

This paper is a report of the results of the bacteriological study of diphtheria in the United States up to May, 1894, so far as these results are of interest for the purposes of this Congress. The investigations were made by various men in New York, Baltimore, Boston, and Philadelphia. Some of the more important conclusions may be summarized as follows:

1. The Health Department of New York has undertaken the bacteriological examination of all cases of suspected diphtheria in that city, unless objection is made by the attending physician, or unless it is not deemed advisable to disturb the patient by such examination. The methods employed are described in detail. During the year ending May 4th, 1894, cultures were made from 5,611 cases of suspected diphtheria. The results have proven satisfactory, and are utilized not only for diagnosis, but also to control the supervision and isolation of the cases.

2. Of 6,156 cases of suspected diphtheria in New York and Boston, $58\frac{1}{2}$ per cent. were proven bacteriologically to be true diphtheria—or, if we include only those cases in which the bacteriological examination was considered to be entirely satisfactory—of 5,340 cases, $67\frac{1}{2}$ per cent. were true diphtheria. These were pseudo-membranous inflammations of the throat and air-passages uncomplicated for the most part with scarlet fever.

3. At least 80 per cent. of the cases of membranous croup in New York were diphtheria, and only 14 per cent. were shown not to be diphtheria.

4. Fifteen cases of fibrinous rhinitis and 4 cases of primary and exclusively nasal diphtheria were all due to the diphtheria bacillus.

5. Various forms of atypical diphtheria, many without membrane, and with the characters of simple catarrhal angina and follicular tonsillitis, are described.

6. Instances of unusual localizations of the diphtheria bacillus, as in the middle ear, in wounds, ulcers, abscesses, conjunctivæ, lungs, heart-valves, and the distribution of the bacilli at autopsies of human beings and of guinea pigs dead of diphtheria, are described.

7. The various bacteria found associated with the diphtheria bacillus, the most important pathogenic forms being

streptococci, staphylococci, and the diplococcus lanceolatus, are considered.

8. In general, the great majority of cases of pseudo membranous anginas in scarlet fever are due to streptococci, but where diphtheria is prevalent and opportunities are favorable for exposure to diphtheria, a large proportion may be due to the diphtheria bacillus. The statistics in Baltimore and in Boston present interesting contrasts in illustration of this point. Four cases of diphtheria complicating typhoid fever are described.

9. The name pseudo-diphtheria is applied to pseudo-membranous inflammations of the throat and air-passages not caused by the diphtheria bacillus. The most important and common micro-organism in pseudo-diphtheria is the streptococcus pyogenes, but other bacteria may be the cause. The mortality in these affections is low in private practice, being 1.7 per cent. in 408 consecutive cases in New York. In hospitals, it may be as high as 25 per cent. Death is generally due to some complication, the most important complications being scarlet fever, membranous laryngitis, and broncho pneumonia. The disease seems to be only slightly, if at all, contagious. For this reason, and on account of the low mortality in uncomplicated cases, those cases which are proved bacteriologically not to be true diphtheria are not kept under supervision by the Health Department in New York. Until such proof, suspicious cases are treated as diphtheria.

10. Of 752 cases of diphtheria in New York, the diphtheria bacilli of 325 disappeared within three days after the complete disappearance of the exudate. In 427 cases, the bacilli persisted for a long time, viz: in 201, for from five to seven days; in 84, for twelve days; in 69, for fifteen days; in 57, for three weeks; in 11, for four weeks; and in 5, for five weeks. In one case, virulent bacilli were found seven weeks after disappearance of the exudate. The cases are kept under supervision until the bacilli have disappeared. Sometimes they disappear first from the nose; at other times, first from the throat.

11. In fourteen families, with forty-eight children, where little or no isolation of a case of diphtheria in each family was undertaken, virulent diphtheria bacilli were found in 50 per cent. of the children, of whom 40 per cent. later developed diphtheria. The bacilli were found in less than 10 per cent. of the children in families where the case of diphtheria was well isolated.

Antiseptic irrigation and cleansing treatment of the throat lessens the liability of those thus exposed to develop diphtheria.

All members of an infected household should be regarded as under suspicion, and where isolation is not enforced, the healthy as well as the sick should be prevented from mingling with others until cultures or sufficient lapse of time give the presumption that they are not carriers of contagion.

12. Diphtheria bacilli may be present and multiply in the throat without causing symptoms or lesions. They must find susceptibility to their pathogenic action in order to cause diphtheria.

13. In three hundred and thirty persons who gave no history of direct contact with diphtheria, virulent diphtheria bacilli were found in eight, of whom only two subsequently developed diphtheria. Bacilli, indistinguishable morphologically or in cultures from the diphtheria bacillus, including the formation of acid in forty-eight hours in bouillon, but entirely devoid of virulence, we found in twenty-four of these persons, in most of these instances in large numbers. The pseudo-diphtheria bacillus was found in twenty-seven.

14. Instances are given in which the diphtheria bacilli were found on various objects outside of the human body, viz: bed-clothing soiled with discharges of diphtheria patients; the shoes and the hair of nurses in attendance on diphtheria patients, and a brush used in sweeping the floor of a diphtheria ward.

15. Some of the various ways in which the diphtheria germ is transported are summarized.

16. A bacillus, in no way distinguishable in morphology or in cultures, including the formation of acid in bouillon, from the usual diphtheria bacillus, but devoid of virulence, exists. The virulence was tested by injecting into half-grown guinea-pigs $\frac{1}{2}$ to 1 per cent. of their weight of forty-eight-hour bouillon cultures. This bacillus, although it has been called by some investigators the pseudo-diphtheria bacillus, should not be so designated. It is the genuine diphtheria bacillus devoid of virulence. It was met with in a comparatively small number of cases out of a large number examined. Exceptionally, it may occur together with the virulent diphtheria bacillus in diphtheria, and occasionally it takes the place of the virulent bacillus during

or after recovery from diphtheria. In several instances, it was found in healthy throats.

The name pseudo-diphtheria bacillus should be confined to bacilli, which, although resembling the diphtheria bacillus, differ from it not only by absence of virulence, but also by cultural peculiarities, the most important of the latter being greater luxuriance of growth on agar and the preservation of the alkaline re-action of bouillon cultures. The pseudo-diphtheria bacillus may render bouillon cultures acid in forty-eight hours when grown anaërobically. The pseudo-diphtheria bacillus in this sense was found in a number of cases, but not frequently. It is probably of different species from the genuine diphtheria bacillus, and is without diagnostic importance.

The Antitoxin Treatment of Diphtheria.

Katz (*Lancet*, II, 1894,) has obtained excellent results with Aronson's antitoxin in diphtheria in the Emperor and Empress Frederick's Children Hospital, under Prof. Baginsky's superintendence. In the last three years, 1891-1893, 1,081 cases of diphtheria have been treated in the hospital, of which 421, or 38.9 per cent., died, the mortality in the respective years being 32.5 per cent. in 1891, 35.4 per cent. in 1892, and 41.7 per cent. in 1893. From the commencement of this year, up to March 14th, 86 cases have been treated, with 38 deaths, or a mortality of 41.8. On the latter date, the antitoxin treatment was commenced and employed in 128 out of 151 cases admitted to the hospital, 23 cases not being subjected to it for various reasons. In the 128 cases so treated, only 17 deaths occurred, the mortality thus falling from 41.7 to 13.2 per cent. In all his clinical observations, Dr. Katz is able to say that on no occasion could any deleterious effect be ever attributed to the employment of the antitoxin solution. If renal inflammation did occur, it followed quite a normal course, no bad effect could be observed upon the rhythm or tone of the heart and pulse.

Katz also inoculated 72 children exposed to the disease in order to determine the prophylactic value of the remedy. Of the 72 inoculated, only 8 were attacked, and so slightly as to be free from any evil consequences. The author states that in the records of the hospital there has never been so favorable a result in a series of diphtheria cases since the introduction of the antitoxin treatment.

[Dr. Herman Bings, Bacteriologist of New York City Board of Health (according to exchanges), has returned

from Berlin, where he went to study the methods of manufacture and the results obtained from the use of "antitoxin." He reports favorably as to the value of this agent to cure diphtheria.]

New Method of Extracting the After-Coming Head.

J. Pulvermacher, of Breslau (*Centralblatt für Gynäkol.*, No. 29, 1894, according to *Univ. Med. Mag.*, Oct., 1894), refers to the fact that in many cases the head of the child is found in such position that the occiput, resting partly or wholly upon the pelvic wall, is bent at an angle to the neck, and that the hand can only feel an ear and the presenting part of the cheek or the zygoma. The other parts of the face, forehead, eyes, nose, mouth, and chin, cannot be felt. The known methods partly cannot be applied, and do not bring about the desired results. In such cases, Pulvermacher applies the following procedure:

A dull double hook is guided by the hand to the region of the zygoma, somewhat beneath the infra-orbital margin, and the blunt end of the instrument, which is hook-shaped, is with the hand in the vagina firmly pressed against the head, while on the other hook-shaped end, which projects from the genitals, a firm traction is made by the other hand. The nurse makes traction during this time with one hand on the legs of the child directing it downward, and presses with the other hand through the abdominal walls upon the head. The face turns immediately towards the sacral hollow, and the child's head will rapidly be delivered. The part of the face upon which the hook has pressed shows no injury, hardly an abrasion of the skin.

Obstetric Surgery—New Work.

The F. A. Davis Co., of Philadelphia, Pa., is about to issue a work with this title, by Dr. Egbert H. Grandin and George W. Jarman, of the N. Y. Maternity Hospital. The work is prepared from a teaching standpoint, and is illustrated by numerous photographic plates and woodcuts. Net price of the volume \$2.50 in extra cloth. A companion volume on *Pregnancy, Normal Labor and the Physiological and Pathological Puerperium* is in active preparation by the same authors.

Book Notices.

Text-Book of Practical Therapeutics—*With Especial Reference to the Application of Remedial Measures to Disease and their Employment upon a Rational Basis.* By HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in Jefferson Medical College of Philadelphia. *With Special Chapters* by Drs. G. E. DR SCHWEINITZ, EDWARD MARTIN and BARTON C. HIRST. New (4th) edition. Thoroughly Revised and Much Enlarged. 8vo. 740 pages. Cloth, \$3 75; leather, \$4.75. Philadelphia: Lea Brothers & Co., 1894.

This *Text-Book* has met with a justly rapid introduction to, and adoption by, the profession and the medical colleges as their text-book. It is fast becoming as familiar in every medical household as were the works of Pereira, Stillé, Wood, etc., a quarter of a century or more ago. It should be remembered that the first edition of Hare's *Therapeutics* was issued less than four years ago; now the fourth is on our table for notice. Each issue has allowed the author opportunity to revise, strike out, and put in new matter, until now the work is presented in a perfected form—so far as the progress of therapeutics has gone. The general plan of the *Text-Book* is about as it has been in former editions. The doses of all drugs are given in both apothecary and metric weights, so as to render them uniform with the U. S. Pharmacopœia of 1890. The author adopts the method advised by Oldberg, and uses 32 cubic centimetres or grammes as equivalent to one ounce—whether liquid or solid. This method very much simplifies matters, and is approximately correct. The volume opens with an introductory chapter or "*Part*," containing general therapeutic considerations. *Part II*—about 320 pages—describes drugs according to an alphabetical arrangement, naming the physiologic, toxic, therapeutic actions of each, and the proper means of administering them. *Part III*—about 60 pages—is taken up with remedial measures other than drugs, including climates, springs, foods for the sick, etc. *Part IV* concludes the volume, giving about 250 pages to the therapeutics of diseases, named alphabetically, besides about 18 pages of tables of doses of medicines, relative weights and measures in the metric and apothecaries' systems, etc., and about 60 pages of indexes of drugs, and remedial measures, and of diseases and their remedies. In every respect, this is a magnificent and extraordinarily useful text-book, for practitioners as well as students. If it

would not be understood as detracting from the merits of the work as presented, we might make the suggestion that it would be a little more agreeable to the eye of the reader if the printers would let there be a space between the end figure of the apothecary quantity and the beginning of the metric, and let the first decimal ., as well as parenthesis,), of the second line "range," as the printers of this section say, with the (above. Thus, the quantities of the first prescription, as printed on page 651 (and reproduced in the left hand column below), would be more readily read if arranged as in the corresponding lines on the right:

gtt. xxxij vel f̄j (4.0).	gtt. xxxij vel 3j....(2.1—4.0)
f̄j (4.0).	f̄j.....(4.0)
f̄j (32.0).	f̄j.....(32.0)
q. s. ad f̄iv (128.0).—M.	q. s. ad f̄iv.....(128.0)—M

Compend of the Practice of Medicine. By DANIEL E. HUGHES, M. D., Chief Resident Physician Philadelphia Hospital, etc. *Fifth Physician's Edition. Thoroughly Revised and Enlarged. Including a very Complete Section on Skin Diseases and a New Section on Mental Diseases.* Philadelphia: P. Blakiston, Son & Co. 1894. Flexible leather. Small 8vo. Pp. 568. \$2.50. (For sale by J. W. Randolph & Co., Richmond.)

The thoroughness of revision is shown by the fact that the present edition contains about 170 more pages than the first edition of eight years ago, and the popularity of the work is shown by the fact that this is the fifth edition in the eight years. As now issued, either from the standpoint of teacher, practitioner, or student, we do not see how it could be materially improved as long as it is the intention to preserve the work as a hand-book—as a compend. The arrangement is easy, and the progression from one subject to another is such as to make the whole work a pleasing one for instruction purposes. The hand of thorough revision, so as to bring the work up to the latest authorities, is seen on nearly every page. The enlargement of the division on skin diseases, so as to include a number not in former editions, and the inclusion of a chapter of about 25 pages on Mental Diseases, add greatly to the value of the book as a guide for the practitioner. The index is first rate; the print plain and clear; the flexible leather back makes it durable for handling purposes, and the size is within limit to make it a handy book to carry to and from lecture room. It is withal an excellent review work, and one that is compelled to remain popular for a long while.

Treatise on the Principles and Practice of Medicine. By AUSTIN FLINT, M. D., LL.D., late Professor of the Principles and Practice of Medicine and of Clinical Medicine in Bellevue Hospital Medical College, etc. *Seventh Edition Thoroughly Revised.* By FREDERICK P. HENRY, A. M., M. D., Professor of the Principles and Practice of Medicine in Woman's Medical College of Pennsylvania, etc. Philadelphia: Lea Brothers & Co., 1894. Cloth. 8vo. Pp. 1143. Cloth, \$5.50; leather, \$6.50.

One of the great excellences of Dr. Flint's writings was his accurate descriptions of disease. His record in this respect cannot be improved upon as long as the clinical features of diseases remain unchanged. But, since his death, the marked and rapid advances in some of the collateral sciences has made necessary the introduction of new names of diseases, described formerly as simply atypical clinical features of such diseases. Of course, also, the progress of medicine has developed the existence of some entirely newly described diseases, etc. All of these, or the most important of them, are now written up by the present editor, who also has made many interpolations in other chapters to bring out the results of the latest clinical teaching—something over 100 new pages. Among such new articles are those on pulsating pleurisy, Weil's disease, syringo-myelia, beri-beri, hereditary chorea, acromegaly, Raynaud's disease, leprosy, lithæmia, rickets, actinomycosis, anthrax, glanders, nervous vomiting, peristaltic unrest, nervous eructation, merycismus, incontinence of the pylorus, atony, hyperacidity and hypersecretion, and nervous dyspepsia. In the Introductory Remarks by the editor on Functional Disorders of the Stomach, we regret to see the effort to discard the use of the long established and well understood term "dyspepsia"—especially as he offers nothing better. What better scientific idea is given of dyspepsia with the descriptive adjectives long used in connection therewith, and well understood by every practitioner, by the substitution of such terms as "peristaltic unrest," "incontinence of the pylorus," etc.? Such attempt at changes in nomenclature is but adding to the confusion of knowledge. When we discard dyspepsia, we have to go over a whole list of recognized symptomatic conditions to discard them as well, such, for instance, as aphasia, ataxia, etc. It often happens that we have to deal with such conditions without being able to trace satisfactorily the result back to the exact nature of the lesion. In efforts to make medicine altogether a science, let us not forget the wants of the practitioner, who often

has to deal with the most prominent and threatening symptoms, such as apoplexy (as formerly understood), syncope or "heart failure," dropsy, jaundice, etc., some of which terms are not even mentioned in the index in a work on the *practice* of medicine. Were the work simply on the *science* of medicine, then the editor might be right in the exclusion of such terms. We should not forget that many such "symptoms"—if one so chooses to refer to such matters—must first be clinically met, and at our leisure we can study out their scientific meaning.

We take advantage of the opportunity presented in noticing this most excellent work—a standard for years, and as imperishable as Watson's work—to enter protest against the radical changes in nomenclature, which are misleading to good, honest practitioners, and tend to confusion of ideas concerning points, regarding which there are no real differences of knowledge or of opinion.

Flint's *Practice* is not excelled by any similar work published. Our protest above is not against the descriptions of diseases, as given either by the author or the editor, nor against the manner of presenting symptoms, diagnoses, therapeutic advices, etc.; it is simply in the non-recognition of terms common with the *practitioner*, and without naming which, in the index at least, may not enable him to refer to the subjects well described in the body of the work. But for him who systematically reads the work as now presented, from preface to conclusion, there is nothing unintelligible and nothing that is not worth remembering. It is an excellent, standard work that the practitioner cannot well afford to be without.

Essentials of the Diseases of the Ear By E. B. GLEASON, S. B., M. D., Clinical Professor of Otology, Medico-Chirurgical College, Philadelphia, etc. Philadelphia: W. B. Saunders. 1894. Cloth. Small 8vo. Pp. 147. Cloth, \$1.

This No. 24 of "Saunders' Question Compends" about winds up the list of subjects. This number is especially prepared for advanced students and post-graduates who wish to review their knowledge of otology, and is arranged in the form of questions and answers. For its purpose, this is a very good book; the illustrations are well drawn, and the author writes with a descriptive fluency that makes each sentence plain.

Manual of Human Physiology. By JOSEPH H. RAYMOND, A. M., M. D., Professor of Physiology and Hygiene, Long Island College Hospital, and Director of Physiology in the Hoagland Laboratory. *With 102 Illustrations in Text, and 48 full-page Colored Plates.* Philadelphia: W. B. Saunders. 1894. Demi 8vo. Pp. 382. Cloth, \$1.25.

Of the many hand-books prepared with special reference to the wants of students of medicine, this neat and handsomely issued "Manual" is the best that has come under our eye. It fills a place peculiarly its own in an "aid series" that is not so elementary as to deprive it of use by even the graduating student, and yet not so voluminous as to make it beyond the power of the average student to read through and through each year, and gather from its pages those facts which will enable him to follow the lecturer attentively and to review his studies thoroughly for examinations. The price, too, puts the volume within the reach of most students who have even the unabridged editions of large text-books—and this is a very important matter. It is not necessary, we presume, to add that the author is an eminent Professor of Physiology, that he has many years' experience as a teacher to judge of the wants of a teacher and of the students, and that his style is finished in expression and instructive in manner of presenting his subjects.

Aseptic Surgical Technique—*With Especial Reference to Gynecological Operations, together with Notes on the Technique Employed in Certain Supplementary Procedures.* By HUNTER ROBB, M. D., Associate in Gynecology, Johns Hopkins University; Professor of Gynecology, Western Reserve University, Cleveland, Ohio. *Illustrated.* Philadelphia: J. B. Lippincott Company. 1894. Demi, 8vo. Cloth. \$2.

This is a capital book, giving in detail the technique necessary for the surgeon of to-day to follow in operating. The descriptions of the manner of preparation in the operating room, of the surgeon and his assistants, and of the patient are given in minutiae, and also illustrated by drawings from photographs. Cleanliness of instruments and of all the surroundings of the patients before, during, and after operation—*surgical cleanliness*, we mean—is absolutely insisted on. The book is fully up to the times. Every doctor as well as student would be profited by reading this book over sufficiently often to pick up the new facts and to remind himself of the old. The author is a fine writer, and thus interest is given to every page, even when describing the details.

System of Legal Medicine. By ALLAN McLANE HAMILTON, M. D., Consulting Physician to the Insane Asylums of New York City, etc., and LAWRENCE GODKIN, of the New York Bar. *With the Collaboration of 27 Associates. Illustrated.* In Two Volumes. Vol. I. New York: E. B. Treat, 1894. Royal 8vo. Pp. 657. Cloth, \$5.50; Sheep, \$6 50 a Volume. (Sold by subscription.)

An immense amount of new experimental research is presented in this work. It is written by eminent American doctors and lawyers for American courts, which gives the "System" a value possessed by none other yet published for the American professions of law and medicine. Its scope includes all subjects apt to be brought before courts having jurisdiction in medico-legal matters. Where statutes of States differ materially one from another, a synopsis of the law in each of them is given. The Editor puts it properly in saying that "both medical and legal practitioners, in the preparation of their [medico-legal] cases need just such information as they will find in [this], a concise and easily accessible form." Volume II is in active preparation, so as to be issued by the time that the subscriber to the "System," through this notice, has had opportunity to well examine Vol. I—now under notice. This Vol. I contains articles relating to medico-legal inspections and post-mortem examinations, medico-legal aspects of death, detection of blood and other stains and hair, identity of the living, identity and survivorship, homicide and wounds, poisoning by inorganic substances, by alkaloids and organic substances, the toxicologic importance of ptomaines and other putrefactive products, medical jurisprudence of life insurance, accident insurance, obligation of the insured and the insurer, certain legal relations of physicians and surgeons to their patients and one another, and indecent assault upon children. Vol. II will be devoted to all other subjects not noted above, that affect doctors in court in their medico-legal bearings.

Practical Treatise on Orthopedic Surgery. By JAMES K. YOUNG, M. D., Instructor in Orthopedic Surgery, University of Pennsylvania, etc. *Illustrated with 285 Wood Cuts.* Philadelphia: Lea Brothers & Co., 1894. 8vo. Pp. 446. Cloth, \$4; leather, \$5.

This "Treatise" is bound to become standard. Neither the surgeon nor general practitioner can well afford to do without it. The text descriptions of diagnostic points, as well as of the methods of treatment, are generally excel-

lent, while the well represented photographic illustrations give to the eye perfect pictures of the points intended. In some particulars, perhaps, the author may show a little too much the bias of prejudice in favor of his own methods as differing from the excellent methods of others, as proven by results; and here and there references are made to details as published in inaccessible journals, etc., which should have been well defined in a book "designed for the use of students." In a work so designed, due prominence should be given to Dr. Lewis A. Sayre, who revolutionized and popularized the treatment of spondylitis, etc., so that now we do not see the humpback on the streets as we did only a decade or two ago. As to plaster of Paris jackets, etc., we are not sure that the author will find most good practitioners, who have tried and observed all the methods he describes, to agree with him in preferring Taylor's braces. But we would not have the reader suppose that there is much in this work to criticise unfavorably, for there is not. We know of no American work of recent date that so justly deserves the recommendation of professors and practitioners.

Text-Book of Medical Chemistry, for Medical and Pharmaceutical Students and Practitioners By ELIAS H. BARTLEY, B. S., M. D., Professor of Chemistry and Toxicology, and Lecturer on Diseases of Children, in Long Island College Hospital; Dean and Professor of Organic Chemistry in Brooklyn College of Pharmacy, etc. *Third Edition Revised and Enlarged. With 84 Illustrations.* Philadelphia: P. Blakiston, Son & Co., 1894. Demi 8vo. Pp. 684. Cloth. \$3. (For sale by J. W. Randolph & Co., Richmond.)

In no department of medicine have the changes in nomenclature been so vexatious to the general practitioner who graduated some years ago as in chemistry. Arseniuretted hydrogen is now *arsin*; phosphoretted hydrogen is *phosphin*; antimonetted hydrogen is *stibin*; thein is *caffein*, etc. And yet, along the line of progress, no department has made greater strides, nor rendered to medicine greater help; so that nothing is left the general practitioner to do except to fall in line and remember the application of the new terms. No book presents them more clearly or defines them better than the one before us, which is a much enlarged edition. Good descriptions are given of the synthetic compounds recently brought into therapeutics. A chapter on physiological and clinical chemistry—dealing with foods, milk, urine, nutrition, digestion, etc.—has been added.

The work has been likewise adapted to the wants of the pharmacist. Several new tables of analytical tests have been introduced as a means of comparing the properties of the group of substances so tabulated. The sections on ptomaines, toxines, and leucomaines are very valuable, giving the chemistry of such ptomaines as cadaverin, neurin, tetanin, etc. The tables for examinations of urine, etc., are most excellent for the doctor. In short, this is a most serviceable book to the doctor, the pharmacist, or the student.

Chemistry: General, Medical, and Pharmaceutical—*Including the Chemistry of the U. S. Pharmacopœia.* A Manual of the General Principles of the Science, and their Application to Medicine and Pharmacy. By JOHN ATTFIELD, M. A., Ph. D., F. I. C., F. C. S., F. R. S., etc., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Fourteenth Edition. Specially Revised by the Author for America to accord with the new U. S. Pharmacopœia. Royal 12mo. 794 pages, with 88 Illustrations. Cloth, \$2.75; leather, \$3.25. Philadelphia: Lea Brothers & Co., 1894.

It is sometimes hard to say what one wishes of a book that seems so perfect as this. This fourteenth edition is issued concurrently in this country and in England, although, in England, it is published as the fifteenth edition. It is brought up to the latest date of chemical advances, and includes reference to every article recognized by the U. S. Pharmacopœia of 1890. While the arrangement of sections is about as it was in the former publication (1889), such has been the recent rapid developments of chemistry, that on nearly every page of the present edition is the indication of some progress. The details of many synthetical and analytical methods have been omitted, as better have been introduced. Thus it becomes necessary for those who own the former edition, who wish to keep abreast with the times, to purchase this edition. While this work contains enough of elementary chemical instruction to serve the wants of a beginner, it is especially as a medical and pharmacal text-book on chemistry that its great usefulness becomes prominent. Doctors, pharmacists, professors, students—whoever wishes to keep up in medical or pharmaceutical, or even physiological chemistry—are compelled to lay aside former editions and adopt this one. It has no superior that we have any acquaintance with.

Editorial.

Medical Society of Virginia.

The Twenty-Fifth Annual Session of this Society, which is to be held in Richmond, Va., beginning Tuesday night, October 23rd, promises to be one of unusual interest. In addition to the number of papers mentioned in the recent Announcement of the Session by the Executive Committee, we are informed that Honorary Fellow, Dr. Oscar Wiley, of Salem, will present Notes from Personal Experience on Hydrophobia. Dr. Irving C. Rosse, of Washington, D. C. (by invitation), will make "Brief Mention of a Few Cases of Nervous and Mental Malady, in which a Medico-Legal Question was Involved." Dr. R. I. Hicks, of Warrenton, will read a paper on Typhoid Fever. Dr. S. W. Dickinson, of Marion, Va., will have something to say on "Management of the Insane." The Essay contest for the prizes promises also to be of interest. Several Essays are already in hand, although it is not required that any should be in hand before October 13th. The visitors have been well selected from among the distinguished men of the country, some of whom, not named in the Announcement, will undoubtedly favor the Society with discussions of subjects as they will be presented for consideration. The Committee of Arrangements will provide the social features, one of which will be a reception at the Masonic Temple on Thursday night. The number of applications for Fellowship is unusually large; and the promises of attendance on the part of members generally is most encouraging. It should not be lost sight of that this meeting will mark the quarter of a century period in the History of the Society in the City of its organization, and with the gentleman in charge of the Committee of Reception who was chairman of the Convention of organization. The Society, during the past year, under the Presidency of Dr. Wm. P. McGuire, of Winchester, has made steady progress, so that there now remains but few men of ability among the profession in the State of Virginia who are not Fellows of the Society. The best talent of the State has been devoted to the objects of this organization during the last quarter century, and by their contributions of time, money, and earnest endeavor, the Medical Society of Virginia has established for itself a most enviable reputation among the State Societies of the country. It was this Society which, after years of struggle, and estab-

lishment of its own State Board of Medical Examiners, has shown to the world the great benefit of such a Board. It has other leading work to do; and we trust that before another quarter of a century passes, that it will harmonize the varying opinions as to other State Boards of Examiners and take the lead in establishing something of Inter-State laws, by means of which the certificate of those who, having satisfactorily passed the Board of one State may be all-sufficient evidence of qualification to entitle the owner to legally practice in another State having a State Board of Examiners of like able men and of like standard of requirements. As in union there is strength, so should an organization, such as the Medical Society of Virginia, have as its watchword—Progress.

The American Medical Publishers' Association

Is prepared to furnish carefully revised lists, set by the Mergenthaler Linotype Machine, and printed upon either plain or adhesive paper, for use in addressing wrappers, envelopes, postal cards, etc., as follows:

List No. 1 contains the name and address of all reputable advertisers in the United States who use medical and pharmaceutical publications, including many new customers just entering the field. Price, \$1.25 per dozen sheets.

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The above lists are furnished gummed, in strip form, for use on the "Plymouth Rock" mailer, and will be found a great convenience in sending out advertising matter, sample copies, and your exchanges. If you do not use a mailing machine, these lists can readily be cut apart and applied as quickly as postage stamps, insuring accuracy in delivery and saving your office-help valuable time.

Send for copy of By-Laws and Monthly Bulletin. These lists will be furnished free of charge to members of the Association. See "Association Notes," in *The Medical Herald*. Charles Wood Fassett, Secretary, corner Sixth and Charles streets, St. Joseph, Mo.

Dr. W. T. Howard, Jr.,

Has entered upon the discharge of duties as Associate Professor of Pathology in the Western Reserve Medical School at Cleveland, Ohio. He went from the Johns Hopkins University with thorough training for his work.

Dr. Thomas R Evans,

Is to be congratulated in having been selected, from his recent home in West Virginia, as Lecturer on Obstetrics in the University of Virginia—one of the duties heretofore performed by the late Prof. Wm. C. Dabney. Dr. Evans had formerly resided in Iowa. He has contributed several articles to this journal which are marked by close study of his subjects, and the presentation of some original views which must leave their impress upon the memory of readers to serve as suggestions for practical testing.

Louisville Medical Progress,

For October, has the following, which we heartily endorse: "How often do physicians of average practice say, 'Oh, I haven't time to write for medical journals—I am too busy.' How was it that Marion Sims, Flint, Agnew, Keating, Fordyce, Barker, Sir Andrew Clark, Charcot, Billroth, and others, had so much time for literary work? And yet their professional duties were as pressing as any one's we know. It would seem that they felt the necessity of keeping their brains in good working order by writing. There is not a physician that we know who hasn't the time, barring laziness or indifference."

The Medical Schools of Virginia,

Are all actively at work, and having the encouragement of professional patronage. The University College of Medicine, Richmond, Va., has about 180 matriculates from ten or twelve States, and this but the beginning of its second annual session. The Medical College of Virginia has about 115 students already registered; while the Medical Department of the University of Virginia up to about the same date, has 160 matriculates. Until last year, the general average of Medical students in Virginia Colleges was about 200 or 225. It speaks well for the standing of medical tuition in this State that there should now be about 450 matriculates in its Colleges from twelve or fifteen different States, as well as some from other countries.

West Virginia Journal of Medicine and Surgery.

We are glad to welcome this journal among our exchanges, edited, as it is, by gentlemen of ability and industry. It is published in Huntington, W. Va., and contains about thirty pages a month. Price, \$2 a year.

A New Surgical Work.

A system of Surgery, edited by Frederick S. Dennis, M. D., and John S. Billings, M. D., is announced by Lea Brothers & Co. as shortly to appear, in three imperial octavo volumes. The list of contributors embraces such names as W. T. Bull, Charles McBurney, and Robert F. Weir, of New York; Councilman, Porter, Richardson, and Warren, of Harvard; Carmalt, of Yale; Keen, White, Roberts, and Wharton, of Philadelphia; Welch, of Baltimore; Park, of Buffalo; Conner, of Cincinnati; Mudd, of St. Louis; and Senn, of Chicago. This great work will be a companion *System* to those already issued by the eminent American Medical publishers.

Management of the Western Lunatic Asylum.

Dr. Joseph G. Rogers, Medical Superintendent of the Indiana Hospital for the Insane, after a visit to Staunton, Va., wrote Dr. Benj. Blackford, Superintendent of the Western Lunatic Asylum, that the buildings recently constructed to expand the capacity of your hospital are certainly very remarkable and noteworthy for two things, viz.: Perfect adaptability to intended use, and extraordinary economy in construction. * * * In the matter of general care and management throughout the entire Institution, I wish to say further, that I found nothing to criticise and much to praise. Such commendation from an authority so eminent is appreciated.

Form for Application for Fellowship in Medical Society of Virginia,

Can be secured by return mail on application to the secretary, Dr. Landon B. Edwards, Richmond, Va. But if that is too tedious or too slow, get the following items on a piece of paper and forward or bring (with \$2 initiation fee) to the Recording Secretary before or during the session to begin in Richmond, October 23rd:—Name, Post Office, College and Date of Graduation in Medicine, when passed Medical Examining Board of Virginia, and by whom Recommended.

Dr. Hunter McGuire,

Is home again from his summering in Europe, refreshed by the trip. He has returned to professional duties with that degree of zeal which characterizes his earnestness in good work.

Dr. George M. Kober, Fort Bidwell, Cal.,

Intends to return to Washington, D. C., in a few weeks to locate permanently. He has been the contributor of some most valuable papers to this journal. The *National Medical Review* gives him credit for calling the attention of the Medical Society of the District of Columbia in 1889 or 1890 to the subject of "Restriction and Prevention of Tuberculosis."

Mississippi Valley Medical Association.

The twentieth annual meeting of this well known organization will be held at Hot Springs, Ark., November 20th, 21st, 22nd and 23rd, 1894. The interest and enthusiasm manifested in all parts of the country concerning the meeting in November, is certainly remarkable. The fact that Hot Springs is to be the place of meeting, will probably be an inducement for many to attend. From the large number of favorable responses, the Secretary, Dr. Frederick C. Woodburn, of Indianapolis, Ind., is predicting an attendance double that of any previous meeting of the association.

Let every doctor who can possibly leave home for a few days go to Hot Springs in November. Let him take his family and his friends, and not only a profitable meeting, but a royal good time will reward him for the exertion. Dr. Xenophen C. Scott, of Cleaveland, Ohio, is President.

The Southern Surgical and Gynæcological Association.

The Seventh Annual Session of this Association will be held in Charleston, November 13, 14, and 15, and promises to be the most successful in the history of the organization. Papers will be presented by the leading surgeons and gynæcologists of the South. The medical profession is cordially invited to attend. Dr. Cornelius Kollock, of Cheraw, S. C., is President; Dr. W. E. B. Davis, Secretary, of Birmingham, Ala.

Dr. William Goodell,

Who was stricken with paralysis while at Williamstown, Mass., some weeks ago, has returned to his home in Philadelphia, and we are glad to learn that he is reported as recovering.

Dr. Wm. P. Tebault, of Norfolk, Va.,

Has been elected Registrar of Vital Statistics of the City of Norfolk, Va., for the term of two years, beginning July, 1894.

*Obituary Record.***Dr. Francois Clement Maillot*—The Introducer of Quinine into Medical Practice—**

Commandeur de la Legion D' Honneur, was born at Briey (Moselle), on the 13th day of February, 1804. Recent advices from Paris announce his death on July 29th, 1894, in the ninety-first year of his age, after a life of conspicuous service rendered to the science of medicine and to humanity. The scion of a family of physicians, he pursued his medical studies at the military training hospital, at Metz, entered the army as assistant medical aid (*sous-aide*), in 1823; was made chief of staff (*médecine principal*) in 1847; became Medical Inspector in 1852, and in 1864, became President of the *Conseil de Santé des Armées*, which last position he held until his retirement from active service, in 1868. Dr. Maillot's service in the hospitals at Ajaccio and of Algiers, in 1832, and in those of Bonn, since 1834, demonstrated to him the uselessness of the anti-phlogistic method in the treatment of cases of pernicious intermittent fever. Dissatisfied with the results obtained by this method, he endeavored to find some remedy which would prove beneficial in the treatment of these cases. In his search for this remedy, he decided to employ quinine, which Selletier and Caventon had discovered in 1820. He was well aware of the discovery, made in 1683, of Peruvian bark, and its successful application, in large quantities, in the treatment of tropical fevers. The success following his employment of the alkaloid met with entire approbation, and the treatment of cases of intermittent fever with quinine was adopted. These successes were reported in several treatises which Dr. Maillot published. In appreciation of his services to humanity, the City Council of Algiers, in 1881, named a street after him, while, on the recommendation of the Council-General of the Department, a village, in the territory of the tribe of Mechdallah, likewise received his name. In 1888, a tardy pecuniary recognition, in the shape of a pension of six thousand francs, was awarded him.

Dr. Maillot published many treatises and monographs, the principal among which we note: *Sur la péritonite aigüe*,

*We are indebted to Drs. M. Zarembo and Llewellyn Eliot, of Washington, D. C., for this notice.

1828; *Recherches sur les fièvres intermittentes du nord de l'Afrique*, 1835; *Traité des fièvres ou irritations cérébro-spinales intermittentes, d'après des observations recueillies en France, en Corse, et en Afrique*, 1836; *Lettre sur le traitement des fièvres intermittentes de l'Algérie*, adressée à M. le docteur Gourand père, 1846; *Du cadre de réserve pour les inspecteurs du service de santé de l'armée*, 1868. In conjunction with Puel (J. A. A.), he published: *Aide mémoire médico-légal de l'officier de santé de l'armée de terre*. Ouvrage publié avec autorisation du ministre de la guerre et encouragé par le Conseil de santé des armées, 1842. With Burgogne (L. F.), he published: *Traité de la médication complète du choléra asiatique, etc.*, 1859.

Dr. Baldwin Day

Died July 25th, 1894, at the home of his family, in Warrenton, Va. He was born of Virginia parents in Zanesville, Ohio, where his father, a physician of recognized ability, had gone to practice his profession. Dr. Day attended his first course at the Medical Department of the University of Virginia, where he took certificates of distinction upon medicine and surgery. He received his degree of Doctor of Medicine from the University of Maryland, and remained in the hospital connected with that Institution six months. He then came to Warrenton, and practiced his profession with success. No young man could have risen more rapidly in reputation while here than he did. In September, 1893, he accepted the position of physician to a mining company in Mason county, W. Va., as more certain and more remunerative than a private practice in a village. Though popular and successful and acceptable, his health failing in the spring, he returned to the home of his family and died rather suddenly of chronic laryngitis. Dr. Day was a young man of fine promise and extraordinary popularity. He possessed a certain magnetism of manner that inspired confidence and won affection. The large and sad crowd that attended his funeral in Warrenton attested the great popularity in which he was held by this community, that had known him from his childhood. H.

Dr. I. S. Stone, of Washington, D. C.,

Has removed to 1449 Rhode Island Avenue, Northwest, where he has opened a private Gynæcological Sanitarium.

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Original Communications.

ART. I.—Fistula in Ano.*

By LLEWELLYN ELIOT, A. M., M. D., of Washington, D. C.,

SURGEON TO THE EASTERN DISPENSARY, ETC.

In selecting the subject, Fistula in Ano, for discussion to-night, I have done so for several reasons, but chiefly because of its curability by operation.

The records of rectal specialists differ as to whether fistula or hæmorrhoids is the affection more frequently presenting itself for treatment, some asserting hæmorrhoids to be the more common, while others, equally high in authority, make the same claim for fistula. Without claiming to be a rectal specialist, I should decide, from a review of my cases, hæmorrhoids to be the more frequent.

No age is exempt from this affection, since Mathews† mentions a case in a child only three weeks old, upon which he operated.

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, October 8th, 1894.

† Mathews, *A Treatise on the Diseases of the Rectum, Anus and Sigmoid Flexure*, p. 179.

Every fistula is the result of an abscess. This abscess may be the result of an injury, either within or without the bowel, or be the attendant of a scrofulous or a tuberculous degeneration of the tissues about the rectum. *Fistulæ* always progress from bad to worse; they are either complete, blind internal, blind external, or horse-shoe shaped. These fistulous tracts are lined with a cartilaginous material, hard and tough; it has no vitality, and must be cut through before healing can occur.

Fistula in ano, like fistula in any other part of the body, will occasionally disappear spontaneously, but this will afford no excuse for doing nothing in these cases. Patients, presenting themselves, will oftentimes ask whether there is any treatment other than operative—radical treatment—and there are some practitioners who, speculating upon their fears, encourage them to earnestly pursue this shibboleth of “treatment without pain and without the knife—one thousand dollars reward,” etc. With such men the profession is unfortunately cursed, and the sooner we educate the general public to accept the dictum of progressive physicians, the better for both patient and physician.

The treatment of fistula in ano resolves itself into that with caustics, injections, dilatation of the sphincter, electrolysis, and division, either by the ecraseur, the ligature, or the knife. All treatment has for its object the destruction of the unhealthy granulations—the so-called “pyogenic membrane” lining the canal. The destruction of these granulations may be accomplished by means of escharotics, nitric acid, carbolic acid, nitrate of silver, or iodine; but their action is slow, and their employment may be followed by abscess and other complications.

Carbolic acid solutions of a strength of 50, 75, or 85 per cent. are more generally used for the obliteration of fistulous tracts than any of the other escharotics. Agnew* (W. P.), quoted by Mathews, says: “The treatment by in-

* Agnew, *Treatment of Hæmorrhoids and other Non-Malignant Rectal Diseases*.

jection, sometimes classified as the 'non-operative method,' has been so successful in the hands of many, that it is stoutly affirmed that any case, curable by the usual heroic methods, is equally curable by this method. In adopting the carbolic acid treatment, probably the better way, after preparing the sinus, will be to use an 80 per cent. solution, protecting the parts from excoriation by any suitable unguent and absorbent cotton. Hot water compresses to relieve pain, eucalyptol, calendula, campho-phenique, etc., in the interim." * * * "As a preliminary step, the external orifice should be well dilated with a laminaria tent or other appropriate means, and a fistulous tract explored with a common probe and thoroughly cleansed with hot water, introduced through a flexible silver cannula. The cannula is also used for the injection of a 5 or a 10 per cent. solution of cocaine to obtund the sensibility before the injection of the acid. After the fistula has been suitably prepared for the reception of the acid, the silver cannula, attached to a hypodermic syringe charged with the acid, is passed up into the tract, the finger inserted into the rectum, and the end held over the internal opening, if the fistula be complete, to prevent the acid escaping into the bowel. The cannula is then slowly withdrawn, and the acid gently forced out of the syringe at the same time. The residual acid is allowed to remain in the fistulous tract for a few moments. The tract is then pressed with the finger, and syringed out with a weak solution of acetic acid, and injected with oil. Once in two or three weeks is sufficient to repeat the injection of the carbolic acid should more than one application be required. Often one application of a strong solution will be found sufficient to effect a cure."

However good this plan of treatment may be, I fail to understand how the simple cauterization of a thick, cartilaginous lining can effect a cure, even though sufficient inflammation should ensue to terminate in sloughing and abscess, since the canal will certainly heal with a portion of

* *Opus cit.*

this lining remaining, ready at any time to be awakened into activity by the slightest of the causes which acted in the beginning.

Treatment by the ligature has many strong advocates. Mr. Allingham* says of it: "I can truly say that I have over and over again been very glad that the utility of the elastic ligature had been brought forward by Prof. Dittel after it had quite fallen into oblivion." This statement is based upon nearly two hundred cases in which the ligature was used. To differ, with regard to a plan of treatment, with one eminent in the treatment of the class of cases about which the difference arises, must appear as a display of ignorance; still, with all due respect to Mr. Allingham, I must assert that the plan of treatment of fistula in ano with the ligature does not present one single point which would dignify it with a right to consideration in any case coming to my hands for relief. Only the very simplest, the most superficial, fistula would respond to its curative influence. That it causes pain, at times confines to the house, is slow in its action, does not make a clean cut, does not divide the bottom of the fistulous tract, cannot be denied. The uncertainty of the location of the internal opening, which has oftentimes to be searched for, will also decide against its application. Then, again, the ligature, either elastic or silk, must be tightened as it becomes slack. With these objections, it is useless to describe its application.

Mathews has devised and successfully used an instrument, which he calls a fistulotome. †"It is very small, being but little longer or larger than a good-sized probe. It has within it *two* concealed knives. It is probe-pointed and easy of introduction. In the end is an eyelet, which I sometimes thread with a filiform bougie, the object being for it to search out and enter any small branch that may exist when the instrument is pushed to the very bottom by the screw arrangement at the distal end. Both knives are uncovered at the same time. They are of sufficient length

* *Opus cit.*

† *Opus cit.*, p. 213.

to cut entirely through the indurated membrane as the instrument is withdrawn, the plan being to insert the fistulotome as far into the sinus as possible, then uncover the knives by the screw attachment at the end." This little instrument is the result of experiments with the urethrotome, and affords very good results in selected cases.

Dilatation of the sphincter with the fingers or the speculum is slow, requires time, patience and perseverance, but at best is a temporizing measure.

Arguing from analogy, fistula in ano could be treated as well with electricity as stricture of the urethra, causing the absorption of the indurated walls of the canal. How or when it is effective I do not pretend to discuss, but will leave this part of the subject to others.

We come now to the best and the only treatment, which will withstand any and all objections—that of the treatment by the knife. It is with this treatment I have had most success. The carbolic acid injections, the elastic ligature, dilatation of the sphincter, have afforded me some most signal failures, and I now treat all cases with the knife, or I refuse to treat them at all, for I do not believe we should allow our patients to prescribe a course of treatment for this or any other disability. They ask our advice and they should be guided by us.

The plan I pursue is to have the bowels moved freely the day before operation; this to be followed by an enema on the morning of the operation; dilate the sphincter to its fullest extent; wash out the sinus with a 1 to 40 solution of carbolic acid; find the internal opening with a probe; where there is no internal opening, make one; pass a grooved director through the sinus and divide with a *straight* knife. We have now an open tract, which is to be carefully examined for *branch* sinuses; wash this tract well with the carbolized water, and with a sharp-rinse curette remove the entire canal lining; where, however, the lining is very resistant, the knife and scissors must be employed until we have removed every particle of the lining. Should bleeding be free, as it will be very often, apply ligatures of catgut.

We have now a cleanly cut wound, every portion in good condition, and there remains but one more step—that is the closure of this wound. This is done with a suitably curved Hagedorn needle and with silk or silk-worm sutures, passed deeply under the base of the wound, uniting the sphincter at the same time. Iodoform is applied, then gauze and cotton, the whole retained in place with a T bandage. For a few days the bowels should be confined with opium. As an anæsthetic, cocaine, hydrochlorate solution, or chloroform may be used. Under this treatment, patients are discharged from treatment well in from two to three weeks. This treatment originated, I think, with Dr. Frederick Lange. I do not now pack a fistula and allow it to heal by granulation from the bottom.

Gaston,* in a paper, "Treatment of Anal Fistula," operates a little differently. After writing of the cleansing with 50 per cent. solution of peroxide of hydrogen, then a mixture of one drachm of concentrated Lugol's solution with four ounces of warm water, and finally with sterilized warm water, divides the fistula over a grooved director, scrapes or cures the tract thoroughly, and packs for a few days with iodoform gauze, and then says: "So soon as the bottom of the incision along the fistulous tract is found to be studded with granulations, the packing should be discontinued and the sides of the wound brought in contact to secure union in all parts"; and, further, he states: "If the curetting is done efficiently at the outset, and the packing applied properly in the bottom of the wound for one week, the granulating process ought to be so developed in this time as to warrant the closure of the incision"; then, further, he says: "* * an operation of this kind should not require the attention of the surgeon more than two weeks. The union secured in this way between the divided parts of the sphincter obviates all inconvenience afterwards from fecal incontinence." He then gives the details of the operation with the ecraseur. This method of operating, if the tract is well curetted and then sutured, has much to

* Gaston, *Trans. (Sec. Surgery) Amer. Med. Assn.*, 1894, p. 304.

recommend it in deeply seated fistulæ opening some distance externally from the sphincter.

Horse-shoe fistulæ must be studied each one for itself, and the method of operating on one or both sides, as the judgment of the operator directs.

Before leaving this subject, the question of the advisability of *operating upon fistulæ occurring in tuberculossis subjects* arises. The occasional co-existence of phthisis pulmonalis and fistula in ano, has given rise to the impression among the general public, as well as among a very great number of physicians and writers, that there is some interdependence between the two affections. And further, should the fistula be eradicated, the lung disability will rapidly progress to a fatal termination. How, when, or where this impression originated, I do not know, but Brodie, Busch, Sir William Fergusson, Gross, Erichsen and other surgeons, either assert their belief in it, or advise against operations in such patients. On the other hand, Dr. Hayes Agnew, Roberts, the *American Text-Book of Surgery* and others, deny the interdependence or advise operation. I cannot understand why the advanced surgeon of the day should practice such a refinement of cruelty as to deprive a patient of the hope of, if not the actual relief from annoyance, pain, and mental anxiety which would result from an operation properly done. By "properly done," I mean the search for and eradication of *all* branch fistulous tracts and not merely the division and curettage of those in view. The probabilities are the degeneration of tissues will continue both in the lungs and about the rectum, nutrition will continue to be impaired, and the patient will die of the lung affection, should the double drain be uninterrupted. There is no connection between the lungs and the rectum, anatomically or in any other way, nor can there ever be any connection. Even scientific plumbing could establish none. The occasional coexistence of these two affections is simply one of accident and is not derivative.

The tendency of the research of the day is to find some pegs upon which to conveniently hang our doubts and our

unsolved problems, and we are fast reaching the point where tuberculosis, scrofulosis and syphilis hold court, earnestly beckoning us to that haven of rest which our efforts to solve the unknown entitle us. Tuberculosis, scrofulosis, syphilis, what a trinity! But many attempts to reach the North Pole have failed; so many attempts to trace all diseases to one source will fail and continue to fail until the end of time. I deny their interdependence and assert with Roberts:* Even in cases of phthisis an operation should be performed as on a fistula in a healthy person, unless the phthisical condition is actively progressing. There is no more risk to the patient than in non-phthisical subjects. And fistula occurring in a patient with tuberculosis of the lungs, should be treated on the same principles that would guide the surgeon in operating upon any other surgical condition in a tubercular subject. I refrain from giving case histories as this paper has exceeded its bounds.

1106 P. St., N. W.

ART. II.—**Supra-Pubic Cystotomy for Hypertrophy of the Prostate—A Clinical Lecture.**†

By **HUNTER MCGUIRE, M. D., LL. D.,** of Richmond, Va.

PROFESSOR OF CLINICAL SURGERY UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, ETC.

[Reported by Robert C. Randolph, M. D., Boyce, Va.]

I present to-day a case of hypertrophy, or enlargement of the prostate body. It is a disease of advanced life—rarely occurring in man under fifty-five years of age. It has been stated (and my clinical experience corroborates the statement), that one-third of men past this age suffer with bladder trouble from enlargement of the prostate.

Hypertrophy of the prostate is due to an increase of tissue in the organ. This increase is chiefly in the muscular and fibrous elements—the glandular undergoing little or

* *Manual of Modern Surgery*, page 645.

†Delivered in amphitheatre of Virginia Hospital, October 16th, 1894, before Class of University College of Medicine.

no change. This enlargement may be symmetrical, thus increasing the length of the prostatic urethra; or one of the lateral lobes may enlarge more than the other, thus compressing the urethra; or the middle lobe alone may enlarge, thus constituting a bar which obstructs the internal orifice of the urethra.

The amount of obstruction and the symptoms produced by hypertrophy of the prostate depend more upon the form and direction of the enlargement than upon its size. Thus, for instance, the enlargement of the middle lobe (spoken of above) would produce more trouble than a much larger growth which projects into the cavity of the bladder, or extends towards the rectum.

Various theories have been advanced as to the causes of this disease. Guyon believes that it is due to a general atheroma; Lydston to prostatic overstrain due to excessive venery. My own clinical experience leads me to agree with Harrison, "that prostatic hypertrophy is secondary to changes which occur in the bladder itself from senility." As years go by, the bladder descends gradually into the pelvis, until in advanced life the posterior wall has sunk to a lower level than the outlet of the organ. Incomplete evacuation, frequent and prolonged efforts of the muscular elements, and hypertrophy is the result. The prostate participates in this compensatory hypertrophy, adding to the obstruction and increasing the violence of the muscular contraction. Pouches form in the walls of the bladder, and urine collects in these depressions. This "residual urine" (so called because it cannot be expelled) undergoes ammoniacal decomposition. Ptomaines are formed, cystitis is set up, the mucous membrane of the bladder is inflamed and thickened, and unless relief is afforded, the process extends to the ureters and kidneys, causing ureteritis, pyelitis, pyelo-nephritis, and death.

The first *symptom* of enlarged prostate is increased frequency of desire to make water; this is especially troublesome at night. The stream is slow to start, is not projected far from the body, but drops perpendicularly to the ground.

There is usually a sense of weight, fulness, and discomfort in the bladder, due to the residual urine, which cannot escape on account of the prostatic dam.

Sudden retention of urine is liable to occur at any time, or incontinence due to over-distension of the bladder.

Cystitis, due to ammoniacal decomposition of the residual urine, is the next prominent symptom, and the water becomes alkaline, fetid, and loaded with mucus. Pain and vesical tenesmus are constant, sleep is disturbed, and the general health fails.

The *diagnosis* is not difficult.

The man before you came to me with the following history: He is past middle life, being sixty years of age; has to get up six or eight times during the night to make his water. His stream is feeble, and even after prolonged effort he fails to satisfactorily empty his bladder. He tells me that he never feels "as if he had done," that his urine has an ammoniacal smell, and that a sediment forms in the bottom of the pot which looks like white of egg. I make him empty his bladder as completely as he can, and on introducing the catheter I find residual urine. To make the diagnosis complete, I insert my finger into his rectum, and feel that his prostate is larger than normal.

Frequently hypertrophy of the prostate is accompanied by the presence of a stone in the bladder. This complication intensifies the symptoms and hastens the termination of the disease. You may suspect that a stone is present if exercise, riding in a rough vehicle, or any sudden jar increases the pain and irritability of the bladder; its existence can be definitely proved only by the use of the sound. Sometimes you may be certain that there is a stone in the bladder, and yet be unable to touch it with an instrument, because it has lodged in a deep pouch behind the prostate. In these cases, the patient should be placed in Trendelenburg position, when the stone will be displaced by gravity, and come within easy reach of the point of the sound, unless it has become encysted or adherent to the walls of the bladder, and this rarely occurs.

Treatment of Enlarged Prostate.—If the growth has not

seriously obstructed the flow of urine, if the patient does not have to get up more than once or twice during the night to empty his bladder, and if the catheter shows only one or two ounces of residual urine, which is clear, and shows no evidence of ammoniacal decomposition, then drugs and local treatment are contra-indicated. The patient should be directed to empty his bladder regularly and completely as possible, to avoid sudden chilling, wet feet, etc. His diet should be simple, consisting of easily-digested foods; his bowels should be kept open, and he should avoid alcoholic drinks.

If the patient's sleep is seriously interfered with by frequent calls to urinate, constant pain in the bladder accompanied by tenesmus, and if the catheter shows that the residual urine exceeds two ounces, that it is cloudy and alkaline, then in addition to the observance of the directions just now given, systematic use of the catheter should be commenced. The patient should be provided with a soft-rubber instrument, and directed to draw off the residual urine according to the indications of the case. He should be cautioned to throw away the instrument and buy a new one as soon as it shows any sign of wearing out, and also to keep it clean.

In some cases, great benefit may be affected by irrigating the bladder once a day with some antiseptic solution, such as a one per cent. solution of acetate of aluminum, a two per cent. solution of carbolic acid or Thiersch's solution of boric and salicylic acids.

Fortunately, the above treatment is all that is needed in the majority of cases of prostatic hypertrophy; but in a certain proportion of cases there comes a time when general measures, backed up by the use of the catheter, fail to give relief. It becomes nearly impossible to introduce the catheter, and its withdrawal is followed by straining and tenesmus. Sleep is disturbed, appetite fails, and a breaking down of the general health soon follows. Electricity, interstitial injections of iodine, ergot and other drugs have all

been tried without benefit. It is by surgery, and by surgery alone, that you can hope to prolong life.

The operation for prostatic overgrowth is based upon two principles: One to excise the portion of the prostate which interferes with the flow of urine; and the other, to let the prostate alone, and make a new channel by which the water can escape. On the first principle, are based the various operations of prostatectomies; on the second, is based an operation which I myself have devised, and which I wish to show you to-day.

Before leaving this subject, I should mention castration as a means of relieving prostatic overgrowth. Recently this method has received considerable attention, and Mansell Moullin, of England, has reported eight cases in which removal of the testicles was followed by atrophy of the prostate. I am unable to say whether or not the results have been as gratifying as reported—too short a time having elapsed since the operations. But be that as it may, so repugnant is the idea of castration to men, that I should certainly not advise it in the present state of our knowledge, especially when we have an operation so simple in itself, affording brilliant results with a minimum degree of danger. I refer to the *supra-pubic cystotomy*.

A *prostatectomy* consists in the enucleation of that portion of the prostate which obstructs the passage of urine. The gland is exposed by opening the bladder through the perineum, or preferably by the supra-pubic route. The mucous membrane covering the obstructing portion is cut away, and the removal completed with fingers or rongeur forceps. When we consider that the operation is of itself a very tedious one, that the hæmorrhage is alarming, that it is not always possible to remove the obstructing growth, and that even if removed it is liable to recur; when we consider the gravity of the operation—the mortality in the hands of our best surgeons being from nine to twenty per cent.—it is but natural that we should lack for some less hazardous and more certain means of relief. The requirements of the case are, I believe, fully met by the operation based upon the

second of the two principles I have already mentioned, and was first published in the *Transactions of the American Surgical Association* in 1888. It consists essentially in the formation of an artificial urethra through which the patient can expel his water. The prostate is left untouched, and a new channel is made, whose length is the thickness of the anterior abdominal wall, which communicates internally with the bladder, and opens externally in the median line just above the symphysis pubis.

The operation is simple, the time consumed is inconsiderable, the relief afforded is instantaneous, and the mortality in my hands has not exceeded three per cent.

The patient upon whom I am about to operate has received careful preparatory treatment. His bowels have been regulated, his heart examined to ascertain the safety of the anæsthetic, his urine tested chemically and microscopically, and though the pathologist's report shows an excess of phosphates and an alkaline condition of the urine, there is no evidence of kidney disease. The alkalinity has been corrected by large doses of citric acid administered in the form of lemonade.

Wounds in the bladder heal readily when the urine is acid, it being impossible for germs to live in an acid medium, and clinical experience has led me to believe that feebly acid urine is aseptic, and that strongly acid urine is antiseptic.

This morning, the patient's rectum has been emptied by a simple enema, and he has taken three doses of sulphate of quinine of five grains each to prevent shock and to promote reaction.

Since he has been chloroformed, you have seen my assistant prepare the site for the operation. The skin above the pubis has been cleanly shaved and well scrubbed with potash soap and warm water. It has then been washed with alcohol and covered with a towel wrung out of a warm solution of bichloride of mercury. A rubber catheter is now inserted into the rectum, and about eight ounces of water pumped into it with a syringe—great care being used not to fill the bag too full, as cases have been reported where the bowel has been ruptured or fatal hæmorrhage produced by over-distension.

The object of the rectal bag is to lift the bladder out of

the pelvis and hold it in place during the operation. In lifting the bladder out of the pelvis, you thus bring its anterior wall, which is uncovered by peritoneum, opposite the point in the abdominal parietes, through which your incision is to be made. Sponges connected by a thread, absorbent cotton or pieces of bandage stuffed into the rectum, will take the place of the rectal bag.

Having distended the rectum, I now pump four or five ounces of water into the bladder, withdraw the catheter, and tie it tightly around the penis to prevent the escape of fluid. The lower part of the abdomen is again flooded with an antiseptic solution, the penis wrapped in gauze, and the patient is ready for the operation. My guides in this operation are the middle line and the superior border of the pubic bone; these are most important, for in the middle line there are no nerves or blood-vessels large enough to be dignified by names; and by keeping close to the pubic bone I avoid the peritoneum, which covers the upper part and posterior wall of the bladder.

With a small scalpel, I make an incision through the skin and superficial fascia in the median line, commencing about two inches above the pubic bone and extending down to the level of its upper border. The recti muscles are now exposed, and I separate them with the handle of my knife, and the wound is deepened to the transversalis fascia. This I incise, and you see the prevesical fat, which always lies just in front of the bladder. There are several large veins running through this fat, so I shove them aside without injuring them and scratch through the friable tissue. My finger now rests upon the wall of the bladder, and I can plainly feel the fluctuation of the water which it contains. I place the back of my knife against the upper border of the pubis, and, pushing its point through the bladder wall, cut upward about one-half an inch. You can see by the gush of water that the cavity has been entered. Before all the fluid can escape, I introduce my finger through the opening that I have made and examine the interior of the viscus. I find a greatly enlarged prostate, but no stones. The mucous membrane lining the bladder is thickened and hypertrophied. My assistant now lets the water escape from the rectal bag and removes it from the rectum, and the bladder sinks down to its normal position in the pelvis. I follow the bladder with my finger, at the same time introducing a rubber catheter along the finger into the bladder;

to prevent its slipping out, I take a stitch through its walls and the skin at the margin of the wound, and the operation is complete. It has not taken more than two minutes. I have used no instrument except this little knife, and the loss of blood has not exceeded a teaspoonful.

The wound is dressed by laying some gauze around the catheter and the free end of the catheter inserted into the neck of a bottle to catch the urine, which will siphon from the bladder as fast as the kidneys secrete it. The wound will heal by granulation, and in two weeks only a fistulous tract will be left in the tract now occupied by the catheter.

The *after-treatment* of the patient upon whom I have just operated is simple. He will keep his bed for two or three weeks until the wound heals; his urine is to be kept acid by lemonade and his bowels open by the regulation of his diet or by simple laxatives. At the end of two or three weeks, the wound will have become cicatrized and the artificial urethra lined with a coating closely resembling, if not identical with, mucous membrane. The patient will then be allowed to get up, and a silver plug or stopper will be placed in the opening. This plug should have the diameter of about a No. 12 American scale bougie, and should be just long enough to enter the bladder. The purpose is to keep the opening patent, to act as a stopper, and to prevent the dribbling of urine. It should be constantly worn, and never taken out except when the patient wants to make water.

The *result of the operation* for the formation of an artificial urethra has been very gratifying both in my hands and in those of other surgeons. The patients can retain their urine, without discomfort, from three to six hours in the day and from six to eight hours at night. Cystitis rapidly disappears, and often the prostate shrinks so that the patient can again pass his water through the natural channel. In case this last happy result does not follow, the patient soon becomes accustomed to passing his water through the new channel, the recti muscles playing the part of a sphincter, and the patient can project the stream far from the body; the last portion comes in jets, just as it does from the natural urethra.

ART. III.—**The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.**

By J. C. LE HARDY, M. D., of Savannah, Ga.

[Continued from page 601, October No., 1894.]

Before proceeding further in the details of the fever outbreak and its management, so that the reader may fully understand this narrative, it will be necessary to take a retrospective view of yellow fever in the days when it was really a most malignant pestilence, spreading death and desolation along the Atlantic Coast, from Canada to South America, and to show how its worst epidemics were managed by the local authorities and resident physicians without help from the Government.

From its earliest appearance in North America to the present day, yellow fever has never spread beyond the low, flat and level lands bordering the Atlantic Ocean, the Gulf of Mexico, and the rivers flowing thereinto. It has always shown itself in one of two forms: the epidemic and the sporadic. An epidemic starts at one or several points (foci). The infection spreads slowly, but regularly, around each focus until a whole district becomes infected. Very often the disease does not extend beyond the limits of a city or village; then again, the infection may be restricted to a section of the city, a single street, or a block of houses. No matter how extended or limited the area of infection may be, it is only within its limits that an epidemic of yellow fever can occur. Any person coming within these limits of infection is liable to have yellow fever.

Sporadic yellow fever occurs at the same season of the year, but it does not spread as it does in the epidemic form. One case may break out here and there in a city or a district, but there it ends, because the surrounding atmosphere is not infected.

Yellow fever is essentially a summer disease—the epidemic generally starting in August and ending in November; it never occurs in winter or spring.

A yellow fever epidemic seldom returns two consecutive years in the same locality; on the contrary, there is usually a long interval (ten to twenty years) between, because the conditions necessary to constitute an epidemic atmosphere—that is, one in which yellow fever can propagate—seldom recur at shorter intervals. These conditions, according to Laroche and a great many other authorities on yellow fever, are: Intense and long-continued solar heat, together with soil saturation, or with the upturning of a large surface of damp earth (Barton and others); or, again, in cities, with the emanations arising from accumulated filth (Woodhull and others).

From my personal observations and investigations of yellow fever, in Augusta, Ga., Savannah, Ga., and elsewhere, during the epidemics or partial epidemics which occurred in 1854, 1858, 1864, 1872, 1876, I have come to the conclusion that yellow fever is produced by the inhalation of the spores of a microscopical plant (not demonstrated) floating in the air. When inhaled, the spores germinate within the body, enter the circulation, and produce toxic effects upon the blood and nervous system within a few days (in some instances the time between the infection and the occurrence of the fever has been less than thirty-six hours). This plant requires a long-continued and high temperature (80° F.), and a damp soil, rich in ammonia for its germination, growth, fructification, and propagation. Its reproductive season is self-limited, about ninety days, and it is always killed by frost.

It is indigenous to the Atlantic Coast of North and South America and of the islands lying between these continents.

The investigations of Carmona, Fréire, Delgreder, Finlay and others, in search of this plant, were not conducted on scientific principles—and are of no value—while the researches of Sternberg were cut short at a time when some practical results were about to be obtained. The time and expense required for an investigation of this magnitude are far beyond the reach of the individual scientist or physi-

cian. This is the reason, in my opinion, why the immediate cause of yellow fever still remains a mystery.

If, however, we take into consideration the atmospheric and terrene conditions necessary to cause an epidemic of yellow fever, the manner in which it starts and spreads about, and that a frost always ends it, we must necessarily come to the conclusion that the virus which causes the fever is the production of a plant.

Were it a contagion, it would spread from the person at all seasons of the year, at every altitude, and in every climate. But yellow fever is an infectious disease—that is to say, the virus which causes the fever floats about in the air, not in water, as that of Asiatic cholera and typhoid fever; not in emanations arising from the body as that of small-pox and scarlet fever; but, like the malaria producing bilious, remittent, and intermittent fevers, it exists in the surrounding atmosphere. If a person contracts intermittent fever while attending upon persons suffering with the disease, it is not because “the chill and fever” are *contagious*, but it indicates that the air within or around the house is infected with malaria. In the same manner, if a person visiting a house where there are cases of yellow fever, happens to contract the fever, it is not because he came in contact with the sick, but because he inhaled the virus from the infected atmosphere inside or outside of the house.

In more than one hundred of the last three hundred years, yellow fever has occurred at some points on the Atlantic and Gulf Coast. During this long period, only four widespread epidemics occurred: In 1793–94, yellow fever raged in New Haven, New York, Philadelphia, Baltimore, Charleston, etc.; in 1800–1, at Boston, Providence, New Bedford, New York, Baltimore, Norfolk, Charleston; in 1819–20, New York, Middleton, Philadelphia, Norfolk, Charleston, Savannah, New Orleans, Natchez; and in 1853–54, at Philadelphia, Charleston, Savannah, Pensacola, Tampa, Key West, Mobile, New Orleans, Napoleon, Ark., Shreveport, Galveston, Natchez, Brownsville, etc. At the same time, the scourge was devastating cities upon the Western Coast

of Europe and Africa, on the Eastern Coast of South America, or in the West India Islands.

Epidemics occurred almost every year in the North between 1791 and 1809—the loss of life being very great in the cities where it prevailed; while in the South, yellow fever, in the epidemic form, was almost unknown. After this, however, while Northern cities were getting rid of the scourge, epidemics steadily increased South. Between 1845 and 1855, the disease attained its greatest degree of virulence. The rate of mortality to the number of cases was from 15 to 50 per cent. Fully 25,000 persons died of yellow fever in New Orleans. Strange as it may seem, for twenty years after the epidemic of Norfolk in 1855, there was, practically speaking, no yellow fever in the United States. Although the visitations of that disease were as frequent as ever upon our Southern Coast, it did so little damage that no notice was taken of it. It appeared in its sporadic or epidemic form at many of our seaport towns, from Beaufort in North Carolina, to Galveston, Texas, during the Civil War, when our ports were blockaded, as well as before and after the “late unpleasantness.”

After this long interval, a serious epidemic occurred at Savannah. Here the infection did not spread beyond the limits of the city. Fully 10,000 of the inhabitants had the fever. Of this number, 896 died. Brunswick, which was infected at the same time, lost 176 lives.

The following year the fever visited Fernandina and other points on the Florida Coast, doing little damage, but in 1878 the infection extended far and wide in the Valley of the Mississippi, the fever cropping out everywhere. Nearly one-half of the mortality from the fever occurred in New Orleans—the death-roll being 4,531 in that city.

This was the last great struggle of yellow fever in the United States. In this battle it lost its ideality as a monoxymal disease and as to its virulence.

The remittent and intermittent forms of the fever have become predominant ever since. In fact, there was already a considerable admixture of these forms in the epidemic of

1876 at Savannah. In a paper read before the Medical Association of Georgia 1878, and published in its *Transactions*, it will be seen that, during the epidemic, I treated 615 cases of yellow fever—56 of intermittent, 17 remittent, and six congestive malarial fevers—and 120 of other diseases. The tendency to remission and intermission among the yellow fever cases was much greater than I had ever seen before. The number of relapses was also much greater—51 cases relapsed in yellow fever, 37 in intermittent, and 9 in remittent bilious fever, after an interval of one to five weeks.

While our people were still under the fear and dread of a return of the yellow fever scourge, a bill passed through Congress creating a National Board of Health (March 3rd, 1879,) as a safeguard. This Board spent all its energy and the money appropriated on *quarantine*, expecting to prevent yellow fever from entering the country. Failing in this effort, Congress relegated all the powers conferred upon it to the U. S. Marine Hospital Service, which, in the vain hope of controlling yellow fever, also used quarantine—adding inland and interstate quarantine to the maritime quarantine (refuge stations) inaugurated by the National Board of Health. Inland quarantine, with its cordon of armed men, restraint upon travel and personal liberty, fumigation and punching of letters, was tried for the first time on the Rio Grande, in 1882, by the Marine Hospital Service.

Since that time yellow fever, in its sporadic and epidemic form, has continued its regular visits to filthy Southern cities, but the number of typical cases has diminished from year to year, and that of malarial fevers increased. This was fully demonstrated in Brunswick last year.

The symptoms of a well-marked case of yellow fever, whether sporadic or epidemic, are identically the same now as they were 500 years ago. They have been described under *many names* and in many countries—as those of bulane fever, vomito negro, coup de barre, vomito prieto, mal de siam, malignant fever, putrid bilious fever, malignant remittent, autumnal fever, typhus icterodes, kendal fever,

barbadoes distemper, malignant plague, pestilential fever, febbre gialla, fiebre amacilla, fievre taune, hæmagastric pestilence, mal du diable, stranger's fever, yellow plague, etc.

In contra-distinction to remittent, intermittent, and recurrent, the name mono-paroxysmal is applied to yellow fever. The premonitory symptoms, if any occur, are similar to those preceding any violent fever; weariness, yawning, stretching, soreness of muscles and joints; generally the fever is ushered abruptly; going to bed apparently well, the individual is awakened during the night, or seized while at work or walking in the street. It starts with a chill or rigors. The chill is soon followed by a hot fever, the temperature rising to 103–4–5 or 6, rarely above 107°. At this stage, the pulse, like that of bilious fever, is quick and tense, from 100° to 130° per minute. The temporal and carotid arteries throb and beat strongly; the skin is hot, dry, and pungent (*calor mordax*); the face highly flushed; the ball of the eye is remarkably red or blood-shot; the pupil brilliant, shiny, and watery. The patient is very restless, tossing from one side of the bed to the other, sighing or moaning continually, and complaining of intense frontal pain—pains in the back and large joints. The tongue is moist, covered with a thin white fur, and generally red on the edges and tip. Nausea or uneasiness and tenderness at the pit of the stomach not unfrequently exists from the start; generally they are not developed until twenty-four hours later, or only appear at the second stage of the fever. The patient complains of a burning sensation and pain on pressure, followed by nausea; after much effort, he vomits an intensely acid, green and yellow ropy mucus. During the fever-paroxysm, the urine is scant; it is very acid and heavy—frequently contains a large percentage of albumin. The bowels, if no medicine has been given, are sluggish or constipated. The mind is more or less disturbed; the patient is anxious and apprehensive to a great degree. The fever continues with little or no mitigation for a period of from twelve to seventy-two hours, and at times longer still. Having run its course, it breaks not to return again.

The patient experiences a great amelioration of all the symptoms. He fancies himself well, is cheerful, sits up, and wants to get out of bed. If the case is to end favorably, convalescence may start from this moment; the eyes turn yellow, bilious evacuations become copious, the albumin disappears from the urine, free perspiration occurs, and the patient speedily recovers.

But it happens frequently that this amelioration is delusive—it is but the beginning of a great struggle between life and death. Upon investigation, the physician finds that the epigastric tenderness is still there, often greater than before. The redness of the conjunctiva is replaced by a deep yellow or an orange color, which extends on the face, neck, and body; the urine is scant, heavy, tinged with yellow; the albumin increased in quantity; the pulse is now slower than in health. This stage may last twenty-four hours, when all the symptoms become aggravated; the pulse becomes slower still; the tongue thickly coated along its central line, moist or dry, brown or yellowish, the edges and tip very red; the thirst increases; nausea and vomiting return: the matter ejected is now mixed with brown flakes or streaked with blood; the perspiration is quick; the skin becomes cold and clammy, or dry and parched. The anxiety is now distressing—sobbing, sighing constantly; then, hiccough supervenes, and the black vomit is thrown up in gulps without effort. Here the patient may fall asleep, the vomiting cease—all these symptoms gradually disappear, and, although extremely weak, convalescence sets in—the patient recovering slowly.

But in the majority of cases, the disease progresses from bad to worse. Irritability and distress is replaced by apathy, or by a kind of cheerful delirium, the patient thinking he is well; or, again, by coma, from which he is aroused with difficulty. The tongue becomes tremulous, and is now brown and dry in the centre or red and smooth. Sordes form on the gums and teeth. The vomit is now black; it consists of disintegrated blood mixed with shreds of the mucous membrane and serum, resembling coffee-grounds.

Sometimes instead black grumous blood is thrown up. The urine is now suppressed or retained. The skin takes a deeper purplish yellow color; ecchymoses appear upon various parts of the body: the blood stagnating in the capillaries, accumulates in depending parts or oozes from the gums, nose or accumulates in the bowels. The blood is black, and the corpuscles broken up and shrivelled. The hiccough becomes constant, perspiration slow and stertorous—the countenance placid, the pulse intermits, and finally fades away; the evacuations have a cadaverous smell, and are involuntary; loss of vision, muttering delirium occur; cold breath, cadaveric smell, precede a quiet death, or violent convulsions end the scene.

In this mono-paroxysmal fever *quinine is contra-indicated*, and should never be given where there exists gastric irritation.

The following is the description of a case of the fever which prevailed last year in Brunswick, as written by the sufferer himself:

BRUNSWICK, GA., February 3d, 1894.

Dr. J. C. Le Hardy, Savannah:

Dear Sir,—Yours of the 2nd is at hand, and in reply would say that my case was similar to most of the cases prevailing at that time. I was taken with a chill, which lasted about three-quarters of an hour, followed by a hot fever, lasting about twenty-four hours. On the third day, the fever again arose, and I had what they called black vomit. Dr. Faget was attending me, and the medicine he gave me was: Sweating powders, milk of magnesia, from 75 to 100 grs. *quinine capsules*, some preparation of iron, and elixir alimentaire. When I vomited, Dr. Murray was called in; he gave me two small tablets, I do not know what they were. Dr. Davis came to see me after this, and told me to quit taking Dr. Faget's medicine. I think I was out of danger when Dr. D. came, on the fifth day.

Hoping this will be of some use to you, believe me,

Yours respectfully,

WESLEY H. GESENFELD.

This letter is from one of the local doctors, which will

throw additional light upon the changes in latter-day yellow fever epidemics :

BRUNSWICK, GA., January 22, 1894.

Dr. J. C. Le Hardy:

Dear Sir,—It is true that I had considerable experience with yellow fever here in the epidemic of 1876, and also in 1878 in the West, where I carried a number of nurses and Drs. Bunns, of Savannah, and E. G. Fergusson, of Macon. I also visited Jacksonville during the epidemic of 1888. During the so-called epidemic yellow fever of 1893, I treated as many as three hundred cases in Brunswick and vicinity. The majority of these cases had malarial fever in an aggravated form. The symptoms were as follows: A chill, followed by high fever, lasting from a few hours to a couple of days; then another chill, followed by fever. All these cases were given quinine and recovered.

In severe cases, the patients would drift into a continued fever, lasting from two to three weeks.

None of my cases ever had suppression or retention of urine, but in every case the color was dark. Whenever vomiting occurred, the vomit was bilious.

I saw a number of patients (not under my treatment), treated for yellow fever, who were taking tinct. mur. iron as a tonic. I have seen some whose vomit was black, but it was not the black vomit of yellow fever.

I lost three cases during the epidemic—one, a Chinaman, of malarial fever; one of typhoid pneumonia, and one of erysipelas.

You may use this statement in any way you may see fit.

I am yours respectfully,

L. B. DAVIS, M. D.

Cases of well-marked and genuine yellow fever were also described. The first case—that of John Branham—was a typical case from the beginning, his temperature being 103.5° and pulse 125 when first seen by the physician three hours after the initiatory chill. The symptoms, as given by Surgeon Hatton on the fifth day, could not be mistaken. Black vomit occurred on the sixth day, coma supervened on the seventh, and death released him on the eighth day. The symptoms of the second case (Harris) were fully as well-defined. "I saw him for the first time on the third

day of his sickness. Symptoms soon after his arrival (at the Branham residence): Irritability of stomach, retching at first of glairy mucus, soon succeeded by coffee-ground or chocolate-colored discharges from stomach. The restlessness and feeling of weight in precordial region were characteristic; and, leaning over the bed, he would endeavor to relieve the oppression by exciting vomiting with the finger in his throat. When seen, his conjunctiva were yellow—the whole body slightly so—till death occurred, when, as usual, the color deepened. Albumen in urine plentiful; in the last stage, pulse rapid; also had strong tonic convulsions, life ceasing with one of extreme violence universal over the body.”

The same physician, who has had much experience in former epidemics, adds:

“I have attended one hundred and ten cases of fever, white and black. Ten were of genuine yellow fever—five of them had black vomit, with no recoveries. I attended five of these in conjunction with other physicians—all of them not under my control from inception to close. The other five I attended exclusively, none having had black vomit—with recovery. Other cases (white) could not be diagnosed as typical cases of yellow fever. No case among the colored people I attended died, excepting two infants. One, nine days old, died before I got to the house, *but which I reported as yellow fever* from what I heard about the symptoms. The other case, three months old, that I judged had fever, had no black vomit, but, in lieu, dark colored actions from the bowels. Few of my cases among the colored were severe. A goodly proportion were evidently malarial, and many of the ephemeral type. The epidemic has been comparatively insignificant for lack of material.

I am sorry that I cannot give you fuller details, or something novel or interesting as to the nature of the epidemic which has been styled a “findesiecle epidemic,” implying something unusual in its nature. I have not been able to see any difference from preceding ones, except to the size of it.”

I am respectfully yours,

ROBT. HAZLEHURST, M. D.

Dr. H. was employed by the M. H. S. as an expert, and attended the Branham, Harris, and other cases, with Dr. Carter. He had full access, and, in all probability, saw more of the typical cases which occurred during the epidemic.

Here is what another physician (the health officer) has to say of this epidemic:

"I cannot, at this time, give you a correct list of deaths from yellow fever—I think 54 were reported. Some of these reported as yellow fever are disputed, and I am sure there is too much doubt about the whole affair to afford any reliable data for history. There was too much malarial fever, and only an expert diagnostician could tell it from what the Exper. M. Hosp. Surgeons call typical yellow fever."—J. A. BUTTS, M. D.

Dr. J. C. Cecil Legare, of New Orleans, an expert of long experience, says: "The epidemic at Brunswick was certainly yellow fever." "I think I attended one hundred and sixty cases of fever, six of whom died, all, with but a single exception, of black vomit. I saw quite a number of cases of malarial fever; they were not treated by me, as my services were given to yellow fever exclusively."

And Dr. John P. Wall, another expert of repute, reported that he had attended two hundred cases during the epidemic, one hundred and eighty-five of whom were cases of fever. In a letter addressed to me, he says: "I reported five deaths, of which one was white; and this white case died of yellow fever. Of the four negroes, none of them died with the symptoms usual in fatal cases of the disease." . . . "That yellow fever was epidemic in Brunswick, there is no doubt, but there was a great deal of malaria mixed up with it."

From the earliest appearance of yellow fever to this day, every conceivable means has been tried to prevent the return of the disease, to check its progress, and to stamp out epidemics. Quarantine, isolation, segregation, disinfection, bon-fires, the burning of houses, of clothing, bedding, etc., etc., have all been tried and failed, to be tried again at every return of the dread visitor. The shrewd and ever wide-awake Bostonians were first to abandon these measures and resort to sanitation as a preventive. They cleaned their

city, drained the soil around them, procured good water, and succeeded in their efforts of ridding themselves of the unwelcome visitor as early as 1805. Little by little other cities North followed the same methods with like results. Baltimore's last epidemic occurred in 1819; New York in 1822; Philadelphia, 1853; Norfolk, 1855. Cities further South kept up the old methods, and continued to have yellow fever epidemics much later.

Finally Charleston, which has had a greater number of epidemics than any other city upon the Coast, concluded to build new sewers to drain her soil, to replace the cistern by artesian water, to pave her streets and keep the city clean, got rid of yellow fever in 1871.

Savannah's last epidemic occurred in 1876, and New Orleans in 1878.

While timorous people, in their fright, would always leave a city whenever yellow fever became epidemic, and country people would refrain from coming into the infected locality, there never occurred such panics as have been seen since the barbarous method of cooping up the inhabitants in a poisonous atmosphere has been in vogue.

In the early part of this century, when the mortality from yellow fever was fearful, and epidemics recurred frequently both in New York, Philadelphia, and other cities, neither travel nor commercial relations were in the least impeded; and in 1853, when the infection spread from Philadelphia to Galveston; when epidemics of the most fatal type of yellow fever raged in seventeen different cities and towns at the same time, New Orleans alone losing 8,470 lives, and Mobile 1,191, no great excitement was produced, no panic occurred in this country, because, at that time, the *name* "yellow fever" created no terror. Neither travel nor commercial relations were at all impeded in Southern or Northern States; communications between the infected districts or cities and the rest of the world were as free as ever. The disease ran its course as usual, and did not spread one foot beyond the line of infection; public charity was not in-

voked ; the stricken communities recuperated their losses through their own exertions.

In the early part of the summer of 1858, an epidemic of dengue (break-bone fever) started at Savannah ; it was followed by yellow fever in September, the infection being restricted to the western half of the city. Hundreds of cases were treated by the doctors, one hundred and twelve proving fatal. No alarm was raised—only a few families left the city.

Yellow fever was declared epidemic in Savannah on the 21st of August, 1876. There were several foci around which the infection spread. As usual, the authorities attempted to “stamp out” the epidemic by disinfection of houses and privies, by burning bon-fires in the streets, etc., and, as usual, the infection spread, “slowly, but surely,” over the city. No panic occurred ; those who were frightened went away as soon as they could—others left when the infection was near their homes—and numbers went at the advice of physicians. The census taken in October showed a population of 18,967. More than one-half of the whites was scattered in every direction. A few persons sickened with yellow fever after leaving the city, in Atlanta, Charleston, and other places, but in no instance did the disease spread. After the first alarm, everything quieted down. Our people came in or went out of town as they liked. Business men spent the night at some one of our suburban resorts, coming in every morning. Traffic and travel went on as usual—no *passes* were needed. Undertakers, doctors and preachers were hard pushed, but the dead were given a decent burial. The cost of the epidemic of 1876 to the city of Savannah has been estimated at \$5,862,357, of which \$2,443,000 was the value of the loss in human life.

With this picture before him, the reader can judge whether the methods used last year were progressive or retrogressive, and whether or not Congress acted wisely in placing matters of so great importance to the people as the prevention of contagious and infectious diseases and the manage-

ment of epidemics under the control of the Marine Hospital Service.

No better opportunity for a thorough study and scientific investigation of the cause and origin of yellow fever, its pathology and bacteriology, could be wished for than was offered last year at Brunswick.

Assistant-Surgeon John W. Branham, the first case, was ordered to take charge of Brunswick quarantine a few days before being taken ill, so that his movements previous to arrival were well known by the Service.

The 12th of August, the Chief at Washington was informed of the nature of his disease before any one else, and a moment after the diagnosis of yellow fever was made by the attending physicians. Surgeon-General Wyman at once sent surgeons supposed to be conversant with the disease to Brunswick. One reached the spot on the 14th—the next one on the 15th. These took immediate and entire charge of the case. Not able to decide upon a diagnosis, the Supervising Surgeon-General was requested to send an expert at once, and Dr. John Guiteras, former Past Assistant-Surgeon M. H. S., yellow fever expert, Professor of Pathology at the University of Pennsylvania and Bacteriologist of the M. H. S., was ordered. He reached Branham's bedside on the 17th, and wired to the Chief: "Diagnosis confirmed—prognosis bad. Thus far it appears that the city is not infected." And on the 18th: "Result of investigation continues favorable; measures taken at quarantine and about the patient will prevent spreading."

Branham died on the 20th, on the same day Dr. Guiteras pronounced Harris' case one of yellow fever, and on the 21st the following telegram was published: "One case of fever in Brunswick, not connected with Branham's."—John Guiteras, Sanitary Inspector M. H. S. And on the 23rd he again wired: "Third case, unconnected with others; removed out of town by mother on hearing diagnosis; followed by Carter; isolated and guarded."

From this date until September 13th, there were no other cases of yellow fever.

Having had much experience in the treatment of yellow fever in all its forms, and having given a good part of my professional life to its study, and knowing also that Savannah is still liable to be visited by the disease, I felt it incumbent on me to ascertain what investigations had been made by the Pathologist and Bacteriologist of the Marine Hospital Service; therefore, I wrote directly to Dr. John Guiteras, requesting him to give the results of his work relative to the origin, the cause, the date of exposure to infection, and length of incubation of the three first cases. For a reason that I have not been able to fathom, I was not honored with a reply.

Believing that Guiteras had employed his time in making a most thorough and scientific investigation of these cases, I was determined to ascertain the result, hoping to benefit our people, our ports, and our commerce thereby. After much trouble and loss of time, I succeeded in obtaining the following letter:

TREASURY DEPARTMENT,
OFFICE SUPERVISING SURGEON-GENERAL,
MARINE HOSPITAL SERVICE,
WASHINGTON, D. C., Oct. 2d, 1893.

Dr. J. C. Le Hardy, Savannah, Ga.:

Sir,—In answer to your questions, a copy of which is returned herewith, referred to me by Hon. R. E. Lester, I would reply—

Question 1. Where was Branham when ordered to Brunswick?

Answer. U. S. Marine Hospital, Stapleton, Staten Island, N. Y.

Ques. 2. Was he, before coming South, exposed in any way to yellow fever contagion? On what day?

Ans. He was not.

Ques. 3. The date of departure for, and of his arrival in Brunswick.

Ans. Date of departure from New York, July 20th, 1893. Date of arrival in Brunswick, July 27th, 1893.

Ques. 4. What day did he take charge of the Quarantine Station?

Ans. August 1st—morning.

Ques. 5. Did he go on board of a ship infected with yellow fever? History of ship? Date of exposure?

Ans. He was on board no vessel which there was evidence to believe was infected with yellow fever.

Ques. 6. The date of appearance of yellow fever?

Ans. August 9th—about 5 P. M.

Ques. 7. Time of incubation?

Ans. Unknown.

Ques. 8. On what day, and where was the second case, (Harris) exposed to contagion?

Ans. Unknown.

Ques. 9. The time of incubation?

Ans. Unknown.

Ques. 10. Was the third case (Cox's child) one of infection or contagion? If of contagion, the date of exposure?

Ques. 11. The length of incubation?

Ans. to 10th and 11th ques. Nothing is known of the etiology of Cox case.

Ques. 12. What were the existing conditions upon which to apprehend an epidemic of yellow fever in Brunswick this year?

Ans. Not understood, unless insufficient quarantine be answer.

I am sorry to be able to give you such unsatisfactory replies to several of your questions, but these matters being unknown, I can do nothing else. Dr. Guiteras' failure to reply was due to an inability to answer even the few questions to which I have been able to reply, and pressure of public business.

I would be obliged for a copy of your article when published.

Respectfully yours, WALTER WYMAN,
Supervising Surgeon-General Marine Hospital Service.

Comment upon this is unnecessary, but it is a very serious thing to know that the entire control of yellow fever epidemics should be at the mercy of one who "*knows so little,*" and who is not likely to know more if personal experience is necessary to understand this "*frightful disease.*" Even to a greater degree than his worthy predecessor he seems to possess a holy terror of "Yellow Jack," and, like the famous "Docteur Pariset," sent by the French government to study yellow fever in Cadiz Spain, he thinks "that distance lends enchantment to the view," our French savant

started fully equipped and travelled in style, *gathering much information on the way*. He managed to arrive there when the disease had entirely disappeared, and the civil authorities had declared Cadiz free from infection. Nevertheless, Pariset wrote a voluminous report upon yellow fever—advising his government to enforce quarantine as a “*sure protection*.” He was a believer (from hearsay) in the contagiousness of the dread disease (then very fatal), and evidently cared not to expose his skin unnecessarily.

[To be concluded in December No., 1894.]

ART. IV.—I. Lateral Curvature of the Spine and Potts' Disease.
—II. Club-Foot and Its Treatment.*

By A. M. PHELPS, M. D., of New York, N. Y.,

PROFESSOR ORTHOPEDIC SURGERY, NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL; ALSO THE SAME IN THE UNIVERSITY OF NEW YORK; PROFESSOR SURGERY, UNIVERSITY OF VERMONT; VISITING SURGEON NEW YORK CITY HOSPITAL.

I. *Treatment of Lateral Curvature and Potts' Disease*.—There is some difference of opinion in the profession in regard to Potts' disease and lateral curvature of the spine, and their treatment. Only a few years ago, certain gentlemen in the profession claimed that they cured lateral curvature of the spine after serious bone changes had taken place. It is needless for me to say that their statement is incorrect. I am willing to concede that it is much easier to treat patients with Potts' disease of the spine or lateral curvature, in private practice, than in clinics; but lateral curvature, when treated even in private, when serious bone changes have taken place, cannot be perfectly cured. That it may be arrested, and the physiological curves remedied, and the patient rendered comfortable, is true of almost every case. Then our aim in the treatment of lateral curvature is directed more particularly to the prevention of the increase of deformity

* A Clinical Lecture delivered at the New York Post-Graduate School and Hospital, September 26th, 1894.

than to the cure of pathological changes which have taken place in the vertebra from pressure.

In regard to the *causes of lateral curvature*, I believe that curves occurring high up in the vertebral column, either in the dorsal or cervical region, are nearly always congenital or rachitic. A rapidly-growing girl, who sits in awkward positions, or stands in such a manner as to constantly curve the spine, will no doubt develop lateral curvature. The curves which occur in the lumbar region are more frequently due to this cause, or a shortened limb, or a twisted pelvis, than any other. These, to my mind, are the most frequent causes of lateral curvature. Paralysis of the muscles undoubtedly produces many cases. The serious curves with which we have to deal are located more frequently in the dorsal region, for the reason that, as the spine bends, there is a change in the ribs and in the muscles between the ribs; and before a curve of this kind can be remedied, it is necessary that the deformity of the ribs shall be overcome. This, of course, is practically impossible, according to our present knowledge.

The deformity in lateral curvature is produced by absorption of the vertebra from pressure. As the spine bends, rotation takes place in the direction of curves, always. Then we say that nearly all cases of lateral curvature are to be considered as cases of lateral rotary spinal curvature. When more than one curve occurs, it is then called double lateral rotary spinal curvature.

One of the most common *symptoms of lateral curvature* is the projecting shoulder-blade and the drooping shoulder. These are cases that find their way to various bandagers, who adjust worthless appliances, and the apprehensions of the mother are put at ease by such charlatans until after a year or two, when the orthopædist is consulted, and he finds an incurable curve in the vertebra produced by absorption; then the projecting shoulder-blade, the drooping shoulder, the prominence of the ribs on one side of the vertebra—as the patient is bent forward—the absence of pain and spasm

of the muscle, the general good health of the patient, are symptomatic of the deformity under consideration. And the case which I present here illustrates well the points which I have tried to emphasize.

How different from this other case which I present to you:

A child of twelve years of age with *Potts' Disease* in the third dorsal vertebrae. This child has pain in the thorax, anteriorly; difficult breathing; walks with that peculiar gait of Potts'. When it stops to pick up an object, crouches down. The slightest pressure on the head produces pain; bending forward of the body elicits a cry; when the body is moved, as you see, it moves in mass, indicating that all of the muscles are affected by spasm, producing the rigid spine; and then, when the patient is bent backwards, and the head lifted, almost total relief of the symptoms enumerated. You will observe that there is also a slight bony prominence in the third dorsal, projecting posteriorly.

From these symptoms you would have no trouble in making a diagnosis of *Potts' disease* of the spine. It is our duty to make your diagnosis before the deformity appears, and to do so in a child only one and a half years old is sometimes quite difficult. But if you will observe these points, you can always make a diagnosis, even though the child cannot speak to you. There will be the night cries; screaming of the child when the mother lifts it; bending forward of the body elicits pain anteriorly from the point of disease; the patient placed upon its back when lifted to an upright position, with the hand under the head, rises with a rigid spine; patient in the sitting position, you standing behind it, will present a rigid spine when bent from side to side; if the disease is located in the lumbar region, the good old doctor has probably treated the case for worms; if in the dorsal region, for asthma. But when the symptoms which I have enumerated are present, although there is no deformity as yet of the spine, you would be quite certain of making a diagnosis of Potts' disease. So you see that there is a vast difference between the symptoms of lateral curvature and Potts' disease.

As regards the principle of treatment of each. In lateral curvature of the spine, effort is made to develop the muscles

of the back by massage and proper gymnastic exercises. The patient's physical condition is rendered strong by appropriate food and exercise; and in cases where deviation of the spine amounts to more than one-half of the diameter of the vertebra, a support to prevent absorption of the vertebra, at the point of curvature, is most emphatically demanded.

In Potts' disease of the spine, however, the principle of treatment is entirely different. It consists in absolute immobilization and extension to the point of comfort, to relieve the pressure between the diseased vertebræ.

The deformity in *lateral curvature* is produced by pressure on one side of the vertebræ, resulting in absorption. In lateral curvature of the spine, I believe the plaster of Paris corset, or the wood corset with lacings, so that they can be removed at night, are the best forms of brace yet devised. The aluminum corset is excellent, but expensive. In the *muscular forms* of curvature, corsets with steel stiffening, particularly for young girls, I have found very satisfactory. These appliances are made while the patient is suspended to the greatest amount possible. This, of course, relieves the pressure upon the bodies of the vertebræ, and stops absorption. The corsets are removed at night—the patient, while in a recumbent position, being in the position of extension. The patient, in an upright position, *with the corset adjusted*, is relieved of the pressure, and absorption must necessarily stop.

Now, in *Potts' disease* of the spine, the patient is fixed in an apparatus while in the position of *suspension to the point of comfort*. The corset, which is adjusted, is not allowed to be removed; it is put on and permanently worn. *It has this advantage over all steel braces, which, to my mind, are almost absolutely worthless, in that the nurse or mother cannot remove it.* It is worn with comfort, and holding the spine, as it does, in an extension position, and fixing it better than it can be fixed in any other way, ankylosis will take place.

No brace or corset of any description can be applied to a child three years of age that will support the spine, owing to the nar-

row hips. For that reason, I have devised a plaster of Paris portable bed, in which the child is placed. This enables the nurse to carry it into the open air, and is better than confining it to a bed in a close room. Bonet's wire cuirass, used by Dr. Sayre, is a most efficient apparatus, but is more expensive than the plaster of Paris portable bed, and is no better.

If the disease is located above the third dorsal vertebra, no corset or brace, without the aid of the jurymast, can be adjusted so as to be a support, owing to the fact that the weight of the head and shoulders operate upon the point of disease or curve. In such cases, the jurymast should always be so adjusted as to transmit the weight of the head through the corset to the hips. *All of the arguments which have ever been advanced against the use of the corset amount to nothing in the presence of an established fact. You will observe that this child with lateral curvature, after the corset is adjusted, is two and a half inches taller than without the corset. If anybody can explain to me what makes this child taller outside of the support he is given by the corset, I will concede that the corset does not support. Until this question is answered, I will continue to believe that the arguments advanced against the support of the corset are all fallacious.*

To make proper corsets from plaster of Paris, suitable material must be used. H. B. Claflin & Co. make for me a special crinoline known as No. 100 hospital crinoline. It has the proper amount of sizing and material, and a total absence of indigo. The plaster of Paris, I have had the White Dental Manufacturing Company, of New York, put up in 50 lb. tin packages, fresh from the oven. This cloth and plaster of Paris, when properly united, makes a perfect plaster bandage.

Tear the crinoline into strips six inches wide and six yards in length; draw the cloth over a pile of plaster of Paris on a table, and with the hand rub off all excepting enough to simply fill the mesh of the cloth; roll the bandage loosely, that it may take water quickly, and it is simply perfection. A tight fitting shirt must now be adjusted to the patient.

The shirt which we now use is simply a long stocking, and costs about twenty-five cents a yard. Mr. Ford of 32nd St. and Fifth Avenue, furnishes it to us. It fits perfectly tight, and a piece can be cut off at any length. It comes in three sizes. Allow the patient with lateral curvature of the spine to suspend himself to the greatest possible extent. In Pott's disease, use the arm-pieces, and you suspend the patient to the point of comfort. The dinner-pad has been placed under the shirt; three or four bandages are now placed in water; one of these is wound snugly around the body just above the crest of the ileum, making two or three turns; then the hips are enveloped down to the great trochanter, use one or two bandages at this point. Begin at the bottom of the corset each time, and roll on the bandages up to the arm-pits, rubbing each layer until there is no longer air in the meshes of the cloth. Six bandages will do for a child under seven years. From eight to twelve for adults. When the plaster is setting, stand behind the patient and gently crowd the corset in over the crest of the ileum and firmly against the ribs. After the corset has firmly set, remove the dinner-pad and spring the corset antero-posteriorly, to throw it off the antero-superior spinus process; otherwise excoriations will surely follow. Cut the corset off the bottom and top. Leave it on permanently in case of Pott's disease. In lateral curvature, cut off the corset, trim the edges with lacing, and you have an elastic, light and durable spinal brace.

If the patient desires a wood corset, fill the plaster of Paris corset with plaster, which makes a cast of the body, upon which the wood corset is made.

The corset in Pott's disease should be worn from six months to a year without removal. In lateral curvature it should be removed each night. Proper exercise, forcible redressment and gymnastics, and so on, as already mentioned, should be used.

If an aluminum corset is desired, the plaster of Paris cast is sent to the foundry, the anvil is made, and upon this

the aluminum is worked. This undoubtedly is the most beautiful corset made.

II. *Club-foot and its Treatment.*—I wish to present to you a case of *club-foot operated upon by Phelps's method.* Before the operation the child walked on the outside of his feet. You see now the feet are as perfect as it is possible to make them. The child walks almost perfectly, with nearly perfect motion of every articulation of the foot. Some have criticized the operation by saying that paralysis and a sensitive scar is the result. I think I am authorized to speak authoritatively, because I have operated over three hundred times and I have not observed either. I have seen some feet which, from bad shoeing in after years, have resulted in a moderately flat foot, but not enough to inconvenience the patient. The case I am now showing had been treated in the 59th Street Dispensary, for four years, with braces, and the result was entirely unsatisfactory. Three months ago we performed this operation, making this simple cut, as you see, through which we divided everything contracted, and forced the bones into their normal position, and the foot into the super-corrected. The child only wears the plaster of Paris shoe, which extends a little over the ankle, over which an ordinary shoe is worn. This will be continued for one year, when, as a rule, these cases have past the period of relapse. I consider it bad practice to treat any case of club-foot for years with any form of brace when the patient will allow us to operate. The results are not so good as when following this operation.

One word more and then I have done. No case of club-foot should be operated upon by any form of osteotomy until subcutaneous tenotomy and open incision with great force has been employed. After this, the various forms of osteotomy find their place. In my series of nearly three hundred cases, osteotomy has been necessary in nearly twelve per cent. of all the cases, and in nearly all of these three hundred cases, operations of various kinds or prolonged instrumental work, had been employed. Several of them had had the astragalus removed. Others had had

cuneiform resections performed. But with this small cut that you see and dividing the contracted soft parts, all of these feet were placed in the super-corrected position, with the exception of twelve per cent. It is true great force was required in many of them.

ART. V.—Lives and Exploits of the Physicians and Surgeons of the Earlier History of Virginia, and of the Recent Past.*

By **WILLIAM P. McGUIRE, M. D.**, of Winchester, Va.

PRESIDENT OF THE MEDICAL SOCIETY OF VIRGINIA, ETC.

In fulfilling the duty pertaining to the office of President of this Society, to which by your very complimentary vote one year ago I was elected, and for which I render my sincere thanks to its members, I thought it would not only be interesting but instructive to turn our minds backward and recall the history of some of those who have preceded us in the medical profession in our State; to point out some of their achievements, and to rescue from oblivion a few fragmentary relics, not only to serve as honorable memorials of those who have gone before us, but as examples to us who still survive.

As Virginians, we are justly proud of our State; for there is no other in this great union of States whose history is so rich with the noble deeds of her people, both civil and military.

While this is true of the heroes, statesmen and lawyers of the Commonwealth, it is a subject of pride to us, that there have been many, whose names are almost forgotten, and of whom the younger members in our Society have probably never heard, among the physicians and surgeons of our Commonwealth, whose records and discoveries in medicine and brilliant operations in surgery, if known, would place

*This is the "Address of the President" of the Medical Society of Virginia, delivered October 24, 1894, during the Twenty-Fifth Annual Session of the same, held in Richmond, Va.

them upon the roll of fame with our illustrious statesmen and soldiers.

At this point, I desire to say I have no intention of trespassing upon the subject of the prize essay, for the best of which a premium has been offered by two gentlemen of this Society.

What I will have to say will be *a mere glance into the Lives and Exploits of the Physicians and Surgeons of our Earlier History and of the Recent Past.*

In recalling the physicians of those very early days, we must remember that their professional standing, as viewed by the general public, was not as high as it is now. Many of those practitioners were self-taught, or only served a few years of apprenticeship in the office or shop of the neighborhood doctor. The opportunities for academical and collegiate education were much more restricted than now. Medical schools were few. Quacks were abundant. One writer says, "The quacks abounded as the locusts of Egypt." This, however, was not true of those of a later period. Many, after a few years study at home, went abroad and attended lectures either at Edinburgh or Glasgow.

The list of Virginia-born physicians graduated from Edinburgh and Glasgow is a lengthy one.

In the earlier-preserved records were Theodorick Bland,¹ in 1763, Arthur Lee 1764, and Corbin Griffin 1765. Among the subsequent names were those of McClurg, Campbell, Walker, Ball, Boush, Lyons, Gilliam, Smith, Field, Lewis, Brockenborough, Adam, Greenhow, Minor, McCaw, Berkeley, Corbin, Archer, Dabney, Banister and others.

It is noteworthy, that many of these medical men played a distinguished part in the political and military history of the Revolutionary Era.

Later on in 1765 the Medical College in Philadelphia was fully organized, and in 1767 the Medical College of New York was founded. These opened new and nearer places of study, and to them many Virginians repaired.

In regarding the achievements of the medical men of

¹Brock.

that early period, we must also remember that at those medical schools the teaching was almost entirely theoretical. Clinics were rarely given. Anæsthetics and antiseptics, of course, had never been heard of. Specialists were unknown. The various mechanical appliances used by us in modern surgery and medicine had not been discovered.

Owing to the long distance and the difficulties of transportation and communication (before the age of steam and telegraph), consultations were restricted; and yet, with all these drawbacks, some of their methods and treatments were in advance of ours to-day. Their very necessities made them inventive and self-reliant, and led to many valuable investigations and discoveries.

There is scarcely a doubt that many of the appliances of modern surgeons, which have been heralded as great discoveries, were long before used by our backwoods brethren. Their personal comfort and conveniences were far inferior to ours of the present day. Their offices generally were single rooms, not very clean, and generally looked after only by a student; often unplastered and uncarpeted, and surrounded by shelves, holding bottles of medicine, a few books, and the like. In every way, the doctor's place of reception was uninviting for patients.

By way of digression, I will here state that the *earliest fee bill*¹ established by law in America was by the Colony of Virginia, August, 1736, entitled "An act for regulating the fees and accounts for practicers of physick." This law made a difference of nearly one-half in favor of those who had taken some degree in a university over those who had "served an apprenticeship" only. This law allowed to a surgeon and apothecary who had "served an apprenticeship to those trades": For each visit and prescription in town or within five miles, five shillings; for each mile above five and under ten, one shilling; additional visits of ten miles, ten shillings; and for every mile above ten, six pence per mile. To surgeons, for a simple fracture and cure thereof, two pounds; compound fracture and cure thereof, four

¹ Toner.

pounds. But to those who "had studied physic in any university and taken a degree therein," there was allowed for each visit and prescription, in town or within five miles, ten shillings; above five miles and for each mile under ten, one shilling additional; and for each mile above ten, one shilling. Each had an allowance for ferriage.

This law also required that in rendering the bill for professional services, "every particular thing made up therein, together with their quantities and prices, shall be expressed." Considering the comparatively low prices pertaining to other things in those days, the fees allowed were not small. To any one who wishes to see this peculiar old law, it will be found in the fourth volume of *Henning's Statutes*, 509-510. This law, by the premium it allowed for those who had university degrees, tended greatly to promote the higher education of medical men.

Among the earlier settlers who came to Virginia and founded Jamestown, in 1607, was Dr. James Woolton,¹ who was Surgeon-General of the Colony. In 1608, Dr. Walter Russell is mentioned as being with Captain Smith and rendering him professional services during the survey of the Chesapeake Bay and the Potomac river. Anthony Bagnall, in 1608, was surgeon for the fort and settlers at Jamestown and vicinity.

Stith, in his *History of Virginia*, states that, during one of his (Dr. Bagnall's) visits to a patient, he was shot at by an Indian, the arrow passing through his hat.

It is presumed that these physicians, whose practice was thus attended with more danger to themselves than benefit perhaps to their patients, returned to England, for it is stated that, in 1609, Smith had to repair to England for surgical treatment,² "for there was neither chirurgion or chirurgery at the Fort."

Dr. Lawrence Bohren³ found his way to Virginia as early as 1610, and in 1611 is mentioned as Physician-General of the Colony. Returning with Lord Delaware, who was ill, to the West Indies, he was killed in a naval engagement with

¹Toner. ²Stith. ³Toner.

a Spanish man-of-war. He was succeeded by Dr. John Pott,¹ in 1624, as Physician-General to the Colony, of which he was made temporary Governor in 1628.

In 1640, Chirurgeon John Brock,² with others, and a little later we find Drs. Daniel Park, Robert Ellison, Francis Haddon, and Patrick Napier in York county.

Dr. Green³ practiced in Gloucester county, where he died in 1676, in the same house where General Bacon, of Bacon's Rebellion, died.

Dr. William Cabell,⁴ a native of Great Britian, was educated to the profession of medicine. He came to America between 1720 and 1724 and settled on the James river, in what is now Nelson county, at a place called Liberty Hall. He was a man of great enterprise and wealth, and was the founder of the distinguished family which bears his name. He died April, 1774, aged 87 years.

John Mitchell⁵ came from England to Virginia about the year 1700, and settled at Urbanna, on the Rappahannock river. He was equally distinguished as a botanist and physician. Besides numerous communications to the Royal Society, he published a work on botany and a treatise on yellow fever. A copy of the latter having fallen into the hands of Dr. Franklin, he sent it to the famous Dr. Benjamin Rush. At that time, yellow fever was prevailing in Philadelphia, and from the suggestions it contained, Dr. Rush was led into a new train of thought which resulted in his succesfully combating that disease. This was in 1793, though Dr. Mitchell had died in 1772.

A history of the profession in Virginia would not be complete without the mention of the name of Dr. James Craik,⁶ Washington's warm personal friend and physician. A native of Scotland, he came to America with Braddock's army and served as a surgeon through the French and Indian Wars, and was surgeon in the American army during the Revolutionary War. After the close of that War, he settled near Mount Vernon at the persuasion of General Washington. He remained the physician and friend of Washington

¹Toner. ²Brock. ³Toner. ⁴Toner. ⁵Toner. ⁶Toner.

until the death of the latter, who refers to him in his will "as my old and intimate friend." Dr. Craik survived until February 6th, 1814.

Dr. John Baynham was a noted practitioner in Caroline county in the early part of the eighteenth century. Dr. Wm. Baynham, his son, born in 1749, acquired great distinction as a surgeon. He lived most of his life in Essex county. After studying medicine with his father, he went to London, and there studied with the celebrated Hunters. He was particularly skilled as an anatomist, and while in London made some delicate dissections, which are still in the list of preparations at St. Thomas' Hospital. He was, without question, the most celebrated anatomist and surgeon of his day in America. Living, as he did, in a sparsely settled country, he was consulted by many persons from a distance, and frequently made long journeys to perform surgical operations. In 1790, he operated successfully for extra-uterine pregnancy on a planter's wife, and again the same year on a negro woman. He died in 1814.

Dr. James McClurg,¹ a native of Virginia, served during the Revolutionary War as surgeon, and part of the time as medical director. He commenced the practice of medicine in Williamsburg in 1773, and soon became widely known as a physician of skill and culture. On the removal of the State government from Williamsburg to Richmond in 1793, he took up his residence in the latter city. For nearly fifty years, by virtue of his professional skill and industry, and of his general learning and culture, he was at the head of the profession in Virginia. He died in 1823. He was a member of the Federal Convention at Philadelphia, which framed and proposed the Constitution of the United States in 1787, but he didn't sign it.

Among the many other surgeons and physicians of our State, who lived about the period of the Revolution, and many of whom became surgeons in the American army, I find the name of James Carter,² of Williamsburg, who was in 1765 complimented by a vote of thanks and fifty pounds.

¹ Toner. ² Toner,

by the President of William and Mary College, for services to the professors and students during an epidemic of small-pox; of Dr. Wm. Carter, who practiced in Richmond, where he died in 1798; of Dr. John Clayton, eminent as a botanist as well as a physician, who settled and practiced in Gloucester county, where he died in 1773; also of Dr. Stephen Cooke, a surgeon in the Army, who was taken prisoner and sent to Bermuda, where he married. After the War, he returned to Virginia and practiced in Loudoun county until his death in 1816.

Dr. John M. Galt,¹ of Williamsburg, was a physician of great eminence. He was the first physician of the Lunatic Asylum established by the State in that town. This Asylum was opened in 1773, and was the first special and independent institution in this country for the care of the insane.

Some of the descendants of Dr. Galt have distinguished themselves in medicine, particularly his grandson, Dr. Jno. M. Galt, who succeeded his father, Dr. Alexander Galt, as Superintendent of the Williamsburg or Eastern Asylum.

This Dr. Galt was also an accomplished linguist—quite thorough in Hebrew, Greek, and Latin, and all the modern languages of Europe, including those of Norway and Sweden. He was also master of a number of Oriental languages—had read the Koran in the original, and every book in the Bible in the tongue in which it was written. He, like his father and grandfather, was a philanthropist and went about doing good. Dr. Galt died in 1862.

Dr. Walter Jones,² of Northumberland county, the ancestor of the celebrated lawyer of Washington of the same name, was a physician of brilliant powers. He died in 1815.

I must be content to group a number of other worthy names without time for special comment, such as Dr. Wm. Graham, David Gould, Robert Maury, Shuball Pratt, John Roberts, Thomas Chrystie, Corbin Griffin of Yorktown, Ezekiel Ball, Joseph Harding of Portsmouth, Cornelius Bald-

¹ Toner. ² Toner.

win, Daniel Conrad, Joseph Davis, Charles Laud, George Monroe, Alexander Skinner, Robert Rose, Joseph Savage, Nathan Smith, John Zervant, Claiborne Vaughn,¹ James Wallace, George Yates, Hugh Mercer, William Foushee of Richmond, and others, whose names are still familiar to us in their descendants who are in our midst to-day.

Coming now to a later period in the history of our profession in this State, we reach a point where many of those we shall speak of are well remembered by the older members of our Society, and in recalling their names and deeds we will bring back dear and revered associations.

Dr. W. B. Selden, of Norfolk, born in 1773, began the practice of medicine in that city in 1799, and labored there for nearly fifty years. He was a splendid scholar, and retained his love for the classics to the close of his life. He was an earnest reader of the best medical literature, and a close observer of disease.

In 1799, he obtained some vaccine virus from Dr. Jenner,² the original discoverer, with which he proceeded to vaccinate, and from which he kept up a continuous supply for fifty years. He declared he could see no variation in the appearance of the vesicle, nor any failure in the power of its protection in all this time.

Dr. Beverly R. Wellford,³ born in 1797, settled in Fredericksburg when barely twenty-one years of age, and soon, by his skill and kindness, won the confidence and affections of the people. He was a man of liberal studies, and devoted to the advancement of the profession. In 1854, he was elected to the Chair of Materia Medica and Therapeutics in the Medical College of Virginia, and removed to Richmond. His professional skill, wide experience and gentle manners soon made him a popular physician in that city. In 1852, he was President of the American Medical Association.

Dr. George Cabell was a prominent practitioner for many years in Lynchburg. He was a man of superior endow-

¹ Brock. ² Toner. ³ Toner.

ments and much culture. His practice extended for many miles along the Valley of the James River.

Dr. John Mettauer,¹ born in 1787, practiced in Prince Edward county. He was, in many respects, one of the boldest and most successful surgeons in the State. He began to practice in this sparsely settled region in 1809, and during a long life maintained the character of a learned and skillful physician and surgeon. No medical man in the South was better known for his success, and for his many valuable contributions to medical literature. In 1817, he operated for vesico-vaginal fistula, using a lead suture and catheter. His success was so good that he made the following statement: "I am decidedly of the opinion that every case of vesico-vaginal fistula can be cured, and my success justifies this opinion." This was two years prior to the first successful operation of Dr. J. Marion Sims. Dr. Mettauer, after reaching eighty years of age, was still active and energetic, and performed important surgical operations with success. He died in 1875.

Dr. Hugh Holmes McGuire, born in 1801, began the practice of medicine in Winchester in 1822. He soon developed a preference for surgery, and did almost exclusively the surgery of the northern section of the State. Among his first operations was that of cataract, which he successfully performed with a needle made under his direction by a mechanic in Winchester. He also performed thirty lithotomies without the loss of a case. With others, he inaugurated, in 1827, the Winchester Medical College, in which he was the Professor of Anatomy and Surgery. This school was not put into successful operation at that time, but in 1847 was revived with a new charter, and remained in successful operation until the beginning of the war. In 1862, its buildings were destroyed by the Federal soldiers.

Dr. McGuire was tendered a professorship of surgery in Louisville and Philadelphia, but declined both. Though at an advanced age, he served through the war in the medical department of the Confederacy. He died in 1875.

¹Toner.

Dr. Chas. Bell Gibson was one of the most celebrated surgeons of Virginia. He was elected in 1847 Professor of Surgery in the Medical College of Virginia. He was a brilliant operator and a skillful physician. In 1861, he was appointed by Governor Letcher Surgeon-General of the State, which office he held until the affairs of the State at that time were merged into the Confederacy. Dr. Gibson died in Richmond in 1865, just about the time of the fall of that city into the hands of the Federal army.

Dr. Francis T. Stribling, of Staunton, practiced medicine for many years in that place. In 1836, he was elected physician to the Western Lunatic Asylum, and in 1840 its Superintendent, which position he held for thirty-four years. His urbanity of manner, his gentleness and patience made him specially fit for this position. He made many improvements in the management of the insane, and under his superintendency this institution made rapid progress towards the better care and treatment of these unfortunate people. At his death, the superintendency of this Asylum passed, by the election of its Board of Directors, into the hands of *Dr. Robert F. Baldwin*, of Winchester, who, by his modesty and gentleness and fidelity to duty, endeared himself to all who came in contact with him. He lived only a few years after his incumbency, and was succeeded by *Dr. A. M. Fauntleroy*, of Staunton, a gifted man, and the second President of this Society after its organization in 1870.

Dr. Fauntleroy was a United States Army Surgeon, and attained a marked reputation as a surgeon in the Confederate Army, and was highly successful in the management of this institution for the insane.

One of the most gifted men who ever graced the medical profession in Virginia was *Dr. James L. Cabell*, of the University. There are few medical men who have equaled him in his accomplishments as a scholar. It was said of Dr. Cabell that he could, with honor to himself and credit to the University, have filled any Chair in that Institution, except the Chair of Law.

It would be a pleasure, were I able to do so, to sketch the members of the original Faculty of the Medical College of Virginia; their eminence as practical men in the profession, and their capacity as teachers have been themes of unstinted praise. *Dr. John P. Cullen*, in the Chair of Practice, and *Dr. Warner*, in Surgery, were very distinguished. *Dr. Brown-Sequard* won great fame here and greater afterwards. *Drs. Bohannon, Chamberlayne, Maupin* lived to a later day, and were known to many of our own generation.

Permit me to speak especially of a few, whom I had the pleasure personally of appreciating for their great gifts in their profession, and as teachers of their science.

Dr. David H. Tucker, of Richmond, was born in 1815; was educated and took his medical degrees at the University of Virginia and at the University of Pennsylvania, and then went to Paris to complete his preparation by a two years' study. He first settled in Philadelphia in 1840; was professor in the Franklin Medical College in that city for several years, and was then elected to the Chair of Medicine in the Medical College of Virginia in 1850 to succeed *Dr. John P. Cullen*, of Richmond, who had died.

So many of the living medical men of Virginia remember this gentleman, that I may be excused, because of my relations to his family, from giving him the praise which all will accord to his strong sense, his acute and vigorous mind, his clear and attractive style as a lecturer, his almost intuitive diagnosis of disease, and his practical sagacity in dealing with it in all its various forms. Few men have shown higher talents in his profession, and his genial and brilliant social qualities made him the central object of affection to a host of friends, as he was most highly esteemed for his professional skill and ability by the medical profession.

Dr. L. S. Joynes, of Richmond, was for many years Professor of Physiology in the Medical College of Virginia. While never a large practitioner, *Dr. Joynes* was a highly learned and accomplished physician. He was a very at-

tractive lecturer upon physiology. There are few who have listened to the teachings of this modest man who will not recall his clear and lucid lectures, especially upon the secretion of urine and its many pathological conditions.

In recalling the names of those who have passed over the great river, we must not forget *Dr. A. E. Petticolas*, the skilled anatomist, who was called to the Chair of Anatomy in the Medical College of Virginia to succeed *Dr. Carter P. Johnson*, whose wonderful promise of eminence in his profession as a learned and studious thinker, was blighted by the loss of his life, when the Arctic foundered in mid-ocean in 1854, on his return from Europe, whither he had been sent to buy new apparatus and appliances for that institution. Nor should we forget that gifted gentleman, *Dr. F. D. Cunningham*, who, with the exception of an interval of one year, in 1867 succeeded *Dr. Petticolas* in the Chair of Anatomy, which he filled with marked success for many years thereafter. Nor that most successful teacher of Anatomy in the University of Virginia, *Dr. John Staige Davis*, who for many years filled the Chair of Anatomy and Materia Medica in that institution. Nor of his worthy and faithful successor, *Dr. W. B. Towles*, who died only recently to the great regret and sorrow of all who knew him; and more recently still, the honored name of *Dr. Wm. C. Dabney*, Professor of Practice of Medicine in the same university. Neither would this address be complete without recalling the name of *Harvey Black*, noted as a skillful and conservative surgeon during the war. After its close, he resumed his quiet, country practice in the village of Blacksburg. But not many years had gone by before he was chosen Superintendent of the Eastern Lunatic Asylum, which position he filled to the close of his life.

The name of *Dr. Henry Latham*, of Lynchburg, chosen President of this Society at its meeting in Alexandria, 1879, and always punctual in his attendance upon the sessions, recalls his kindly sympathy and genial wit and humor, especially to the young men, who held him in affectionate veneration and esteem.

I cannot fail to notice Dr. Wm. Owens, Lynchburg's skillful and noted surgeon, or Dr. M. M. Lewis, of Alexandria, who was probably but little known to even most of the older members of this Society, yet his skill as a surgeon and physician during a long practice was equalled by few. Nor should we fail to recall Drs. James Bolton, R. W. Haxall, D. J. Claiborne, R. B. Butt, John Field, James Henderson, T. R. Atkinson of the old regime; nor the forty-five martyrs who sacrificed their lives to duty, and died of yellow fever at Norfolk in 1855. Nor Dr. S. C. Gleaves, Dr. Robert T. Coleman, Dr. J. S. Dorsey Cullen and others, who have died in our own times; and so the list might be almost indefinitely extended, for there are many others who have left brilliant records after them, and whose names are endeared to us by many delightful memories; but to attempt to name them all, and point out their achievements, would consume more time than is allotted to this address.

I have also refrained from speaking of those Virginians belonging to us by birth, but who attained their reputations in other States. The list, however, is a long one, and I will simply mention Dudley and McDowell, of Kentucky; Hartsborne, Chapman, Horner, Mitchell, Muller, all of Philadelphia.

There is one other Virginia physician whose name should be perpetuated — *Dr. David Minton Wright*, of Norfolk, who was brutally hung in obedience to the orders of a military Commission of the Federal Army, for defending his own life upon the streets of Norfolk in 1862. The General Assembly of Virginia, after his death, passed this resolution:

"Resolved, That, in the death of Dr. Wright, this Commonwealth recognizes another addition to the long and illustrious catalogue of martyrs whose stern and inflexible devotion to liberty have rendered historic the history of the people of the present struggle."

This Society was organized in 1870, with ninety-two members. Of that number fifty have died. In twenty-four years, more than one-half of those who first assembled

in this city to form this body have passed to the Great Beyond. Their virtues should never be forgotten and their memories should always be honored.

In view of the honorable list of men, who have preceded us in the philanthropic duties of our great profession in this Commonwealth, and of their distinguished and useful services to their fellowmen in their day, and of their valuable contributions to medical science for the good of mankind, and of the host of living successors to the eminent surgeons and physicians of the past generation, whose acquirements and genius promise a harvest of honor for our profession in this State and in the world, let us betake ourselves with earnest and solemn devotion to the duties which our daily practice imposes upon us, and, by close observation and unwearied industry, to the promotion of medical science, until its beneficent results shall be commensurate with our highest aspirations, and realize our best hopes for the well-being, happiness and elevation of the human race, according to the benevolent purposes of our Creator.

ART. VI.—Curettage of the Uterus.*

By JOHN W. DILLARD, M. D., of Lynchburg, Va.

MEMBER MEDICAL EXAMINING BOARD OF VIRGINIA, ETC.

The curette was invented by Recamier, of Paris, in 1846. The exact instrument used by him has long since gone into disuse. Curettage, when first introduced, met with great and violent opposition, having been regarded as barbarous and unscientific.

The pyogenic germs must find access to the female pelvis through the womb; hence, curettage would be indicated in all forms of endometritis, and the most marked results are often obtained in acute septic inflammation of the womb, following abortion or labor.

*Read before Medical Society of Virginia, Session in Richmond, October 23-25, 1894.

In subinvolution of the womb, in the exhaustive hæmorrhages of uterine fibroids, in dysmenorrhœa and sterility due to stenosis of the cervix, curettage, after a full dilatation, gives better results than the latter treatment alone; and even in salpingitis, a thorough curetting and packing with iodoform gauze, which will cause a profuse drainage from the cavity of the womb, and will very often succeed in accomplishing the most gratifying results.

The only real contra-indication to the use of the curette is the existence of peritonitis.

I always use the dull curette in scraping out secundines after abortions; but for all other purposes I use a large sharp instrument, and do not think the irrigating curette is to be preferred to the other forms.

The operation should be done under the most rigid antiseptic precautions, and at the home of the patient, or at a hospital, and never at the physician's office.

With the patient on a firm table and in the dorsal position, bring the hips well up to the edge of the table, preferably resting on Kelly's pad, and have each leg supported by an assistant or nurse. Now scrub the external parts thoroughly with hot bichloride of mercury solution, of a strength of 1 to 500, and irrigate the vagina with the bichloride solution of one-half the above strength. Introduce your bivalve speculum and expose the cervix, then catch a firm hold upon the anterior lip of the cervix with a small pair of velsellum forceps, and draw the uterus well down, thereby straightening any flexion that may be in the neck. Introduce first a small Ellinger's and afterwards Goodell's more powerful instrument, and dilate the cervix to the amount of an inch or more—several authorities to the contrary notwithstanding—and in doing so do not put too sudden pressure on your dilator, for fear of rupturing the cervix. While still firmly holding the uterus by the velsellum in your left hand, introduce the curette, and systematically scrape out the uterine cavity. The entire endometrium should be removed in this operation, so that the *cystogenic*

embryonic womb may produce a new membrane under favorable conditions.

After curetting, irrigate the cavity thoroughly with bichloride solution, as warm as can be borne with comfort by the hand, and of a strength of 1 to 4000. The irrigation is easily done by any good intra-uterine back-flow tube attached to a fountain syringe, holding the antiseptic solution. The uterine cavity should now be packed with iodoform gauze, which will require a piece about one-and-a-half inches wide by fifteen inches long.

If the cervix is well dilated, the tampon of gauze can be introduced with ease by the ordinary packing forceps; otherwise, it will have to be inserted through an intra-uterine speculum. I never find it necessary, except in malignant disease, to swab out the cavity after the operation with tincture of iodine, carbolic acid, or any other like agent. My cases do better with the iodoform gauze packing, and hæmorrhage, which is generally very small, is easily controlled by this measure.

On the third or fourth day remove the dressing, irrigate again the cavity with the hot bichloride solution, and repack the uterus; this time you will not be able to introduce quite so much of the gauze. The last dressing should be removed on the fourth day, when it will not be necessary to again pack the uterine cavity; only irrigate as before, and put an antiseptic plug lightly in front of the cervix.

The patient should not leave the bed under eight days, and should not go about the house in a shorter time than two weeks after the operation.

It is important to know that when you are scraping over an unhealthy surface, you hear no sound; but when you get to healthy tissue beneath the disease, that you hear a rasping sound, by which the experienced operator will know that all of the morbid tissue has been removed.

Curettage properly performed is very painful, and should never be done except under the influence of an anæsthetic, and the subsequent pain will often demand the employment of an anodyne in some form.

The menses do not occur earlier, as is stated by some, but in my experience is generally delayed, and in one case of hæmorrhagic endometritis of eight years' duration, the catamenia did not return for five months after the curettage, when it again became perfectly regular.

There is not the least danger in curetting the uterus if it is carefully performed, and in my experience it has been seldom necessary to repeat the operation. Only one of my cases ever had the slightest trouble from this operation, and that was occasioned by the formation of an abscess near the os internum, which was doubtless due to some septic infection which should not have existed.

With the proper aseptic precautions, and a reasonable amount of dexterity in the use of the instruments, the general practitioner can perform this operation as well as a gynæcologist.

The above remarks have been principally made upon the experience of the writer in one hundred and ten cases.

ART. VII.—The Medical and Surgical Aspects of Appendicitis.*

By EDWARD E. FEILD, M. D., of Norfolk, Va.,

EX-PRESIDENT NORFOLK MEDICAL SOCIETY; DEPARTMENT QUARANTINE OFFICER, ETC.

[Signed VULNERE SANO.]

So much has been said and written on this comparatively recently recognized disease, that a paper sufficiently comprehensive to embrace the conflicting theories of its causation, its anatomy and clinical history, and the arguments pro and con for its medical and surgical treatment, would be a volume of immense size.

I shall, therefore, content myself with defining the disease, giving the anatomy, histology, physiology and path-

* The Essay for which Dr. Hunter McGuire's Prize of One Hundred Dollars was awarded during the Twenty-fifth Annual Session of the Medical Society of Virginia, held in Richmond, October 23-25, 1894. Committee of Examination and Award—Drs Jacob Michaux, of Richmond; Paul B. Barringer, University of Virginia, and Lewis E. Harvie, Danville, Va.

ology as briefly as is consistent with a proper description of the subject, and in the most concise manner possible define the clinical history and treatment as they have appeared to myself and other observers.

From the caption, I apprehend that a history of the disease is not desired; and, in order to avoid too voluminous a paper, I refrain from giving any but the most meagre historical facts. Suffice it to say, that the first recorded case of perforation was published by Mestivier¹ in 1759.

In 1812, Dr. Parkinson,² an English physician, reported a case of perforated appendicitis in a child five years old.

In a paper of the scope of this article, it is necessary to derive information from the writings and experience of other men of larger opportunities, and I shall endeavor to give to each author the credit due him. I shall also quote as few personal cases as possible, mentioning only such as shall be necessary to illustrate principles of diagnosis and treatment, assuming that the disease is sufficiently well understood to dispense with further detail.

ANATOMY OF THE APPENDIX.—Gray, in his text-book of Anatomy,³ says: "The vermiform appendix is a long, narrow, worm-shaped tube, the rudiment of the lengthened cæcum formed in all the mammalia, except some of the higher apes and the wombat, in whom an appendix exists. The appendix varies from three to six inches in length, its average diameter being equal to that of a goose quill. It is usually directed upwards and inwards behind the cæcum, coiled upon itself, and terminates in a blunt point, being retained in its position by a fold of peritoneum, which sometimes forms a mesentery for it. Its canal is small, and communicates with the cæcum by an orifice, which is sometimes guarded with an incomplete valve. Its coats are thick, and its mucous lining furnished with a large number of solitary glands."

The above description is misleading to this extent, that

¹ *Pathology of the Vermiform Appendix*, Kelynack, 1893, page 8.

² *Op. cit.*, page 9.

³ Gray's *Anatomy*, 12th edition, page 873.

it fails to record the many diversities in the length, lumen and position of the appendix, whether congenital or acquired.

Kelynack⁴ says: "The variations of the vermiform appendix in size, shape, length, character of lumen, extent of mesentery, movability and position are so very considerable that any pathological considerations which ignore such natural diversities can be of but partial value.

"Most of these peculiarities are undoubtedly of developmental origin, but a not inconsiderable number are certainly acquired, and due, in the greater number of instances, to old inflammatory mischief. The task of deciding if such apparent abnormalities are of post-natal origin, is frequently far from easy."

The appendix varies greatly in length in different individuals, the measurements as given by Treves⁵ being from one to six inches. In a case reported by Mott,⁶ it was seven inches in length, turned up behind the colon and mesocolon, crossed the second part of the duodenum, and was attached by its tip to the right kidney. Other observers have found it as long as nine inches. It is claimed by Kelynack⁷ that the duplicature of mucous membrane known as Gerlach's valve rarely exists.

It is proper here to call attention to the pouches formed by folds of the peritoneum, and known as the ileo-colic, ileo-cæcal, and sub-cæcal fossæ; the first named lying above the ileum and internal to the colon; the ileo cæcal behind the angle of junction of the ileum and cæcum, ascending upwards behind the ileo-colic junction sometimes as far as the kidney; and the sub-cæcal, lying directly beneath the cæcum.

These pouches are important in connection with hernia of the appendix and collections of pus which they may contain in inflammation of that organ.

⁴*Pathology of Vermiform Appendix*, page 7.

⁵Treves, *The Surgical Treatment of Typhlitis*, 1890.

⁶Mott, *Transactions of the Pathological Society*, London, 1859.

⁷*Op. cit.*, page 19.

HISTOLOGY AND PHYSIOLOGY.—But little can be said here of the histology of the appendix, except to notice that its structure⁸ closely resembles that of the large intestine; its richness in lymphoid elements and its histological and pathological similarity to the tonsils. Practically nothing is known of its physiology.

ETIOLOGY AND PATHOLOGY.—At one time appendicitis was supposed to originate only from impaction of foreign bodies, such as small seeds, faecal concretions, etc., in the appendix, ulceration or gangrene being caused by sloughing from pressure.

More recent observations, however, show that, although this is a cause of appendicitis, it is by no means the most frequent one.

Fenwick⁹ found foreign bodies in 46 per cent. of cases of perforating appendicitis, while other observers, including Matterstock, Krafft, Maurin, Fitz and Ferguson, in 621 cases, found only 10 per cent. due to foreign bodies other than faecal concretions.

Murphy¹⁰ claims that, in 141 cases operated on in his practice, enteroliths were found in 30 per cent., and other foreign bodies in 3.5 per cent.

It is probable that, in a general catarrhal condition of the intestinal tract, the appendix is involved, and the swelling of its mucous membrane, and its unfavorable position for drainage, sometimes perpetuate a catarrh of the organ. Abbe found a case of catarrhal appendicitis associated with acute rheumatism. In congestion of the intestinal mucous membrane, the glands are excited to an increased activity and secrete a fluid rich in alkaline and earthy salts, principally phosphate¹¹ and carbonate of calcium. These salts are deposited in situations least amenable to drainage; hence the formation of calculi or concretions in the appendix.¹²

Kelynack found that many foreign bodies were accumu-

⁸ Kelynack, *op. cit.*

⁹ Clinical Lectures on Obscure Diseases of the Abdomen, 1889, page 9.

¹⁰ *Journal A. M. A.*, 1894, March 3.

¹¹ Landois and Stirling, *Text-Book of Human Physiology*, 4th edition.

¹² *Pathology of Vermiform Appendix*, page 65.

lations of fæces, and believes that there is an appendicular passage of fæces. This latter view would seem to be substantiated by a case reported to the New York Surgical Society by Dr. Parker Syms, in which a healthy appendix was removed because of its great length, and "after removal it continued for about ten minutes to squirm and turn on the plate very much as a grub-worm might do, and finally a formed fæcal movement took place from it."¹³

The lymphoid elements being more abundant in children, and their stronger tendency to diarrhœa, may account for the greater frequency of the disease in young subjects.

Appendicitis has been found to occur with greater frequency in male subjects, the proportion being 78 to 22. It is also a disease of early life. In a total of 430 cases, 186, or 43 per cent., were under 20 years of age; 286, or 72 per cent., were under 30 years of age. The youngest case on record was that of an infant, seven weeks old, reported by Fenger.¹⁴ The appendix contained several hard fæcal concretions, and there was general peritonitis.

Cases of appendicitis amenable to medical treatment are almost exclusively those of catarrhal origin.

"Mr. Sutton¹⁵ likens the appendix to an abdominal tonsil, and points out the presence of a large amount of lymphoid tissue with a fibroid sheath around it as justifying the analogy. Pathologically, this explains the morbid phenomena met with in respect to the appendix. Many people suffer from relapsing tonsilitis, and a similar condition in the appendix would account for the cases of relapsing appendicitis which recover under medical treatment. Others, however, run on to suppuration, these to acute quinsy, those to suppurative appendicitis."

Ulceration of the appendix or its mucous membrane, with or without perforation, occurs from simple pus infection, infection of walls by the pyogenic microbes, the bacterium commune coli (as claimed by Murphy,¹⁶ Hodenpyl,¹⁷

¹³ *Boston Med. and Surg. Journal*, March 2, 1894.

¹⁴ Fenger, quoted by Kelynack, page 86.

¹⁵ *British Med. Journal*, March 7, 1891, page 524.

¹⁶ *Journal Amer. Med. Ass'n.* page 303.

¹⁷ *N. Y. Med. Jour.*, December 30, 1893.

and Fowler¹⁸); by actinomycosis (as reported by Kelynack), from typhoid or tubercular ulcer, from atrophy or gangrene, from pressure of an enterolith or other foreign body. Occlusion of the mouth of the appendix from swelling, cicatricial contraction, or a foreign body, may give rise to a cystic dilatation of that organ.

Morris¹⁹ says: "I have completed a series of investigations which prove that appendicitis is an infectious exudative inflammation, commonly terminating in connective tissue replacement of the mucosa of the appendix, when the accidents of rapid necrosis do not cause a different ending."

Stimson has found the mucosa in a case of appendicitis replaced by fibrous tissue and round cells.

Should the inflammatory process extend by contiguity to the peritoneum, or perforation into the cavity take place, peritonitis, local or general, will be set up. Fortunately, inflammatory lymph is generally thrown out, forming limiting adhesions and shutting off the abscess from the general peritoneal cavity. The location of such abscess may be retro-colic, sub-cæcal, or internal to the colon, according to the direction of the appendix. These abscesses sometimes point externally or burst into some portion of the intestine, the vagina, or bladder, or into the general peritoneal cavity. Should the abscess be retro-colic, it may be mistaken for a hepatic or perinephritic abscess. Some of the cases diagnosed as psoas abscess are probably appendicitis. Should the case be of a very rapid nature, or the exudation strongly infective, or the patient have feeble power of resistance, the peritoneum will become infected before the limiting adhesions are developed and general peritonitis results.

In the so-called fulminating variety of peritonitis, the result is usually fatal in a few hours.

The varieties of appendicitis would seem, then, to be practically, (1) Catarrhal appendicitis simple; (2) Appendicitis, with circumscribed peritoneal abscess, usually, though

¹⁸ *N. Y. Med. Jour.*, October 14, 1893.

¹⁹ *N. Y. Med. Jour.*, October 15, 1893, note.

not necessarily, due to perforation; (3) Appendicitis, with general peritonitis; (4) Recurrent appendicitis.

The following cases, which came under my observation, will illustrate the above varieties of the disease:

CASE I.—*Catarrh of the Appendix—Recovery.*—J. B., aged 25, native of Norway. The patient was taken suddenly with moderate pain in the abdomen, mainly in right iliac region, vomiting, constipation; temperature, 100° to 101° . Upon examination, had marked tenderness in right iliac fossa. There was no perceptible tumor or dullness on percussion. Was given small doses of sulphate of magnesia, which produced free catharsis. Local treatment consisted of an ice bag over region of appendix. On the second day, there was general improvement, the severity of all the symptoms having abated. The use of salines and ice cap was still continued, and patient was convalescent in four or five days.

CASE II.—*Catarrhal Appendicitis—Abscess—Recovery without Operation.*—June 10th, 1888, R. T., aged 26, white, was taken with a sudden attack of diarrhœa, with severe abdominal pains. Had eaten imprudently the previous day, so the attack was diagnosed as intestinal colic, and morphine, chloral and soda administered. The temperature was not taken. The next day patient was no better. Temperature 103° ; pulse 96; restless; pain considerable. Small tumor was felt in right iliac fossa. Calomel and opium and quinine were given; poultices over tumor; enemata of castor oil, turpentine and warm water administered. Temperature fell next day to 99° . Calomel, quinine and opium were discontinued. Small doses of citrate magnesia were given and poultices and enemata continued.

Under this treatment, patient recovered in four weeks, although the temperature, varying from normal to 101° , and the tenderness of the persistent tumor indicated the presence of pus. He has had no recurrence in six years.

CASE III.—*Circumscribed Abscess—Operation—Recovery.*—H. E., Englishman, aged 21, engineer. History: About one year ago, felt slight pains and soreness in right iliac region, which he attributed to tightness of his belt, or some slight accidental blow. Felt this several times since. Habitual constipation. Three weeks previous had slight pain. Six days ago, had violent pain, and took several doses of oil, which produced only slight evacuation. Was seen March 10th, 1891. Small hard tumor in right iliac fossa. "Mc-

Burney's point" extremely sensitive, slight tympanitis, severe pain.

Operated March 11th. Temperature, 101.1° ; pulse, 96. Incision about line of external border of rectus. Abscess bursted into incision; about eight ounces of pus discharged. Abscess cavity cleansed, and disinfected with 1 to 5000 bichloride solution. Shut off from general cavity by adhesions. It was not deemed safe to look for appendix on account of weakness. Drainage tube, catgut sutures. Dressed with iodoform and gauze. Third day irrigated with bichloride, and a so-called fecal concretion came away. Urine was drawn by catheter. Bowels acted from small doses of salines. Temperature never rose above 100.4° , and he made an uninterrupted recovery.

Evidently this was primarily a case of catarrhal appendicitis, with formation of enterolith, pressure, atrophy and ulceration.

CASE IV.—*Appendicitis with Abscess opening into Bowels.*—G., aged 65, merchant; was taken with a chill March 5th, 1894. Pain in right shoulder, then in abdomen, markedly in right iliac fossa; pains seemed of colicky nature. He vomited undigested food; had high fever, with right iliac tenderness; had tympanitis and fever for several days; had retention of urine, which was relieved by catheterization; urine contained albumen and casts.

I saw him on March 13th, eight days after the attack. There was a tumor in the iliac fossa, and extending above the antero-superior spine of the ilium, easily discerned by palpation, and considerable tenderness over the fossa. Of course, all manipulation of the abdomen was very gentle, for fear of rupturing the abscess sac. Temperature was normal. The next day there was a discharge of pus by the rectum. On the 15th, there was some relief of pain. Two quarts of urine were removed by catheter, after which the distended appendix could be easily recognized by palpation.

I saw him again on the 17th. The tumor was still easily defined and slightly tender. There was still some retention of urine, and pus continued to be discharged per rectum. The retention of urine was attributed partly to inability to use the diaphragm and abdominal muscles on account of pain produced by the intra-abdominal pressure from their use. This patient had had two prior attacks of colic, with tenderness in right groin and fever, the intervals being several years.

In view of the age of the patient, the apparent connection of the abscess with the intestine, the condition of his kidneys and bladder, we decided that operative interference was unjustifiable. The patient made a good recovery, but had a slight recurrence of the disease five months later, at which time I failed to see him.

CASE V.—*Appendicitis—Diffuse Peritonitis—Death—Autopsy.*—Tom B., aged 8, white. Had had slight pains in bowels for a about week or two, but was playing about the house. On sliding down the banisters, felt an acute pain in right iliac fossa “as if something had given away.” Was sick three or four days, when general peritonitis set in, and preparations were made for an operation, but he died before it could be performed. The autopsy showed perforation of the appendix by an enterolith and diffuse peritonitis. Previous to the attack he had been perfectly healthy. Family history excellent.

CASE VI.—*Recurrent Cystic Appendicitis.*—September 16th, 1894; H. de G., aged 46; Foreman of saw-mill. Was seen in consultation with Dr. D. About three weeks ago, was taken with a sudden attack of diarrhœa, with intense pain referred to region of appendix. A physician who was called in diagnosed the case as one of lead colic. The patient had not been exposed in any way to lead poisoning. When examined by Dr. D., he had high fever, constipation of bowels, tenderness and a tumor in right iliac fossa, easily felt on palpation. The patient is now free from all soreness, but tumor persists.

CASE VII.—*Recurrent Appendicitis—Operation—Recovery.*—P. N., mechanic, 26 years old. Has suffered with frequent exacerbations for past two years, and these recently have returned about every two weeks, incapacitating him for work. Has lost about forty pounds in weight, is pale and cachetic looking. Operation June 12th, 1894. Found omentum firmly bound down over cæcum, and a pocket of pus ($\frac{1}{2}$ dr) in a fold of cæcum. Appendix enlarged. Ligature cut through as it would through butter. Cæcum also inflamed and softened. Closed wound of appendix by Lembert sutures, many of which tore out. Operation lasted about two hours. Patient took anæsthetic badly, but recovered without any bad symptom. Iodoform gauze drainage. Small fistula remained, but healed in two weeks. Discharged July 10th, cured. Had gained several pounds in weight.

CLINICAL HISTORY.—The clinical history of appendicitis is by no means constant, the symptoms varying as the cause is catarrhal, purulent or obstructive, perforative or non-perforative, and with local or general peritonitis. *Pain*, varying from slight vague uneasiness to the most acute agony, and not confined to the right iliac fossa, or even to the abdominal region, is a constant symptom. In one case which came under my care, the pain was referred to the right shoulder. Nor does the gravity of the symptoms correspond to the intensity of the pain. In mild cases, or in the earlier stages of acute cases, there is often but little pain; also in chronic cases or cases associated with localized intra-peritoneal abscess. Where we have reason to suspect perforation, pain is a very important symptom. Fenwick²⁰ found that in 73 per cent. of cases, pain was the first symptom. It was of sudden onset in nearly every case.

Constipation, due to the paralysis of the bowel, nausea and vomiting (sometimes stercoraceous), tenderness in right iliac region, a tumor at seat of appendix, which may be due to inflammatory exudation or to impacted feces in cæcum, rigidity of right rectus muscle, sometimes redness over tumor, and temperature ranging from normal to 103°—rarely higher—are usually present as symptoms of appendicitis.

The *decubitus* is dorsal, and the right thigh usually flexed on the abdomen to relieve tension. Morton²¹ has called attention to engorgement of the superficial abdominal veins as a symptom of the disease.

Where we have a case of suppurative appendicitis with obstruction, there is a sudden attack of pain in abdomen, followed in a short time by nausea, and probably vomiting, tenderness, rapid pulse, high temperature, tympanites, "symptoms resembling peritonitis, without peritonitis."²²

In ulceration with perforation, we have the same train of symptoms, except that the temperature and pulse will be

²⁰Fenwick as quoted by Kelynack, op. cit. page 143.

²¹Morton, *Buffalo Med. and Surg. Journal*, p. 279, Dec., 1891.

²²Murphy, *Journ. Am. Med. Association*.

lower. Murphy²³ claims that "infection of the peritoneum with perforation, has, immediately following the perforation, no special symptoms above a circumscribed peritonitis, or a simple lesion of the appendix without perforation." If the abscess remains circumscribed, the symptoms will subside to a great extent, but the abscess will be intra-peritoneal, although walled in by adhesions. Local tenderness and induration will still remain.

The symptoms of general peritonitis are so well known that reference to them will be dispensed with, except to say that the text-books are misleading in stating that collapse is always an immediate symptom of the bursting of an abscess into the peritoneal cavity. (See case 5.)

The variability in position of the appendix leads me to believe that "McBurney's point" is of little practical value as a diagnostic sign of appendicitis. Should the appendix be invaginated into the sub-cæcal fossa, and the collection of pus be small, the tender spot would be too low and too far external for McBurney's point; if into the ileo-colic fossa it would be too high and too far back.

DIAGNOSIS.—The diagnosis of appendicitis can be pretty accurately made by the following associated symptoms: Sudden pain in the region of the appendix, nausea, frequently with vomiting, usually a history of constipation, moderate elevation of temperature, tenderness and sometimes a tumor in right iliac fossa. Great care should be used in palpating the tumor, lest a cystic appendix or circumscribed abscess be ruptured into the general peritoneal cavity.

Attacks of appendicitis sometimes stimulate intestinal obstruction, as in cases cited by Hartley and others. A case of rupture of common bile duct which came under my observation presented symptoms somewhat similar to those of appendicitis. Passage of a renal calculus and affections of the female pelvic organs sometimes exhibit symptoms resembling those of appendicitis, although the diagnosis is usually easily made.

²³Murphy, op. cit.

PROGNOSIS.—The *prognosis* is grave; about 30 per cent. of cases treated medically terminate fatally. Murphy²⁴ operates on all cases, his mortality being 16 in 141 cases, or less than 12 per cent. Murray²⁵ gives the mortality of laparotomy for recurrent appendicitis as a little over 5 per cent. Bull, in a paper read before the New York Academy of Medicine, February 13th, 1894, gave the mortality of his own operations in periods of quiescence as 2 per cent.

TREATMENT.—The diagnosis having been made, the treatment now confronts us. *Shall the treatment be medical or surgical?* Here the clear head and discriminating judgment of the medical man are needed to weigh the chances and decide on the proper course to pursue. I condemn as strongly the conservatism which sits idly by and waits for the "abstraction called nature" to assert itself, until an abscess bursts into the peritoneal cavity, or the patient's condition otherwise deteriorates, as I do that rash resort to surgical measures which, through ignorance or carelessness of the operator, imperils the patient's life. So many dissimilar factors enter into the consideration of each individual case, that no general rule can be formulated for treatment. We must consider the severity of the attack, the nature of the attack—whether initial or recurrent—the stage of the disease, the patient's age, general conditions and surroundings, and the doctor's skill in abdominal surgery. The consensus of opinion among medical men, who are physicians only, seems to be to temporize as long as possible before resorting to surgical measures; that among surgeons, to operate in nearly all cases, and to operate early—that is, within forty-eight hours from the inception of the disease.

We will first consider the *medical aspect* of the question. If the patient has a low temperature, good pulse, not much pain, slight constipation or paralysis of bowel, little tenderness over region of appendix, tumor small, if present, and non-fluctuating, and especially if he be old or one who will

²⁴ *Journal Am. Med. Ass'n*, 1894

²⁵ Murray, *N. Y. Med. Journal*, May 24, 1890, page 565.

not stand operation well, confine him closely to bed, with an ice bag (preferably) or a poultice made of a few layers of flannel and wrung out of hot water and covered with oil silk over the region of the appendix. Carefully give high enemata of warm water and castor oil, administer small doses of salines, frequently repeated, to soften faecal masses, and as little opium as possible to relieve pain. Calomel and bichloride of mercury, in small doses, and salol in five-grain doses, are recommended to disinfect the bowel, but I have had no experience with them in this disease. Administer only liquid food, and such as is easily digested. Keep up the patient's strength with tonics and stimulants if necessary, and wait. But, while waiting, obey the other biblical injunction, and watch.

Surgical Aspect.—Should there be symptoms of perforation, operation should be resorted to at once to prevent a general peritoneal infection. If peritonitis has developed, operative measures are imperatively demanded, as they give the patient his only chance of life. Nor should the medical man hesitate to operate in such cases for lack of a thorough training in abdominal surgery, unless a more competent surgeon can be had without delay. But if there is no special indication for immediate operation, the unskilled surgeon should by no means operate for appendicitis, as the operation from start to finish is a dangerous one. No abdominal operation is fraught with more serious complications, and the surgeon should have sufficient experience and skill to confront them.

Operate on recurrent appendicitis only in the interim, unless the present attack demands immediate operation. Observe the strictest antiseptic precautions in the operation. If possible, the patient should have had an enema of soap and water to relieve the bowels of faeces and flatus.

Thoroughly, but gently, scrub the abdomen with soap and water; then wash it over with alcohol or ether, and afterwards with bichloride, 1 to 1000. Place bichloride towels around the field of operation. At least two assistants, besides the anæsthetizer, will be necessary. The Trendelen-

Berg table will be found very useful where it is necessary to search for the appendix, although, in all of my own operations and those I have witnessed, the ordinary operating table was used. The instruments should have been boiled and then placed in 3 per cent. solution of carbolic acid.

The incision should be just external to the linea semilunaris, extending from one inch above the anterior superior spine to two inches below it, and in a slightly oblique direction downward and inward, avoiding if possible the epigastric artery.

This incision lies directly over the cæcum and lower part of the colon, and is preferable to that through the sheath of the rectus, as the muscular tissue unites more readily, forming a stronger union of the walls and minimizing the danger of hernia. Morris²⁶ recommends an incision one and one-half inches in length directly over the appendix.

I believe surgeons generally will find such an incision inadequate to a proper examination of the seat of mischief and any obscure pus cavities, and certainly too small for the removal of the appendix if it occupy an abnormal position or be bound down by adhesions or a short meso-appendix. Besides, the risk of hernia is little greater from a long than a short incision. The skin, connective tissue and muscles may be divided down to the transversalis at a single stroke, but the general operator will be wiser to divide each layer separately, checking all bleeding points as he proceeds until the peritoneum is reached. Open this by lifting it between two pairs of forceps and puncturing it. Into the puncture insert a grooved director and slit up the membrane with the knife or blunt scissors, care being taken to follow the line of the original incision and not to injure one of the cells of small intestine which usually persist in getting into the way. The abdominal layers may be found matted together by inflammation and the omentum adherent. Care should be taken not to open the bowel by mistake for the abscess sac.

²⁶ *N. Y. Med. Jour.*, Oct. 15, 1893.

Push back the coils of small intestine, and retain them in position by flat sponges. The colon can be recognized by its greater size and its longitudinal band of muscular fibres. The appendix will be found by tracing this downward. Bring the appendix out of the wound, ligate it near its base, and then cut it off whether it appear healthy or not, invaginating its peritoneal coat with Lembert sutures. Suture the rent in the meso-appendix with fine cat-gut or silk. Search carefully for any obscure pockets of pus, and evacuate them, removing the pus with sponges, if possible, to avoid infecting the general peritoneal cavity. Any wound of intestine or peritoneum must be closed with Lembert suture. Divide any constricting bands which may be found.

Prolonged manipulation in the cavity should be avoided, and only the operator's fingers allowed in the wound. If no pus is found, and the tissues are in good condition, close the wound without drainage. Stitch the peritoneum with a continuous suture of cat-gut or fine silk, and each succeeding layer of muscle with fine cat-gut. Use silk only on the skin. In this way the integrity of the muscles will be maintained better than if sutures involving the entire thickness of the abdominal wall are used. Still, in cases involving rapidity of operation the latter method is best.

If operating in an acute attack with circumscribed abscess, make the incision over the most prominent part of the tumor and evacuate the pus. By no means use the aspirating needle to locate the abscess, as the peritoneum may be thereby infected. Unless the abscess is sub-cæcal, or retro-colic, pus will usually flow freely through the wound. After evacuating it, wash out the cavity with warm sterilized water, Thiersch's solution or bichloride 1 to 5000, then cautiously insert the index finger and search for the appendix. If easily found, remove it. If not, drain with drainage-tube or iodoform gauze wrapped in rubber protective, and carried down to bottom of pus cavity. Be careful not to break down any limiting adhesions. Close the incision down to the drainage-tube or gauze-plug, which should be

as small as possible, to minimize risk of hernia. In operating for diffuse peritonitis, the operation is practically the same, except that sterilized water only should be used for flushing the cavity. Of course dressings of iodoform gauze, sterilized gauze, etc., will be used as in the technique of all abdominal operations.

The after-treatment consists in confining the patient to bed, restraining him to liquid (preferably milk) diet, keeping bowels open with salines, giving as little opium as possible for relief of pain, washing out abscess when necessary, and maintaining his general condition with tonics and stimulants. An abdominal belt similar to that used in the New York Hospital for the Ruptured and Crippled should be worn during convalescence to prevent hernia.

DEDUCTIONS.—From the foregoing facts, the following deductions are drawn:

1st. That appendicitis is more a surgical than a medical disease.

2nd. That appendicitis is mainly a disease of early life.

3rd. That some cases of appendicitis are amenable to medical treatment, principally those of catarrhal, typhoid, or tubercular origin.

4th. That perforation of the appendix is not necessary to set up peritonitis, circumscribed or general.

5th. That the large majority of cases of appendicitis should be treated surgically when the skill of the surgeon and the patient's surroundings will admit of it.

6th. That the operation for appendicitis is a grave one, and should be performed only by a competent surgeon, except in cases of emergency.

7th. That cases of recurrent appendicitis should be operated on between attacks if possible.

8th. That cases of circumscribed abscess should be operated on and cavity drained and disinfected.

9th. That operation is imperatively demanded in all cases of commencing or diffuse peritonitis as giving the patient his only chance for life.

10th. That operation should usually be performed early in the disease.

11th. That thorough asepsis and antisepsis should be observed as required by each case.

12th. That hernia is more liable to occur in cases operated on late in the disease, on account of condition of tissues preventing union by first intention.

ART VIII.—Dislocation of the Hip, with Ex ra-Capsular Fracture of the Neck of the Femur—Reduction and Replacement of the Head of the Bone in the Socket, and Recovery.*

By **G. W. LARRICK, M. D.** of Middletown, Va.

On the 19th day of January, 1889, I was called to see a young man, who, the messenger said, had either a broken thigh or a dislocated hip. I reached the patient about 9 P. M., and elicited the following history of the injury:

J. W. R., aged 20, was on a load of fodder, driving two horses without lines, when the team ran under a tree, a limb of which caught under the bundle of fodder on which he was sitting. The wagon continuing to move forward, the limb raised the bundle of fodder and turned the young man forcibly backward, doubled him up, and threw him violently to the ground, a distance, probably, of ten or twelve feet. He was picked up and carried into the house and laid on a pallet on the floor, where I found him. This occurred about four hours before I saw him.

He was suffering very acutely. As soon as possible I made a hasty examination, and, as his muscular development was very slight, I had no difficulty in diagnosing a dislocation of the hip; at the same time I found considerable enlargement of the upper portion of the femur.

I placed him on the bare floor and made the necessary preparations to reduce the luxation by manipulation. After giving him chloroform, I proceeded to make a careful examination of the injury, to ascertain the exact position of the head of the bone, in order to determine what manipulations should be made. I found the dislocation was backwards and upwards, and upon grasping the leg I found it perfectly

*Read before the Twenty-fifth Annual Session of the Medical Society of Virginia, in Richmond, Va., October 23-25, 1894, and, by permission, contributed to this journal.

mobile. It would lie with the toes everted or inverted, indiscriminately, just as it might be placed. This alarmed me, and I directed an assistant to rotate the limb while I examined its upper part. With the fingers of my left hand over the neck and those of my right lower down, I detected, when the limb was rotated, a very distinct crepitation. I immediately withdrew the chloroform and sent a messenger for my friend, Dr. J. J. Crawford, of Strasburg, for consultation and assistance.

While awaiting the doctor's arrival, I inquired about the deformity of the upper part of the femur. I was told that when he was about 13 years old he had, after visiting a circus, undertaken to ride a horse by standing on his back, as he had seen done at the circus. Losing his balance, he jumped and landed on his feet, then fell, "hurting his hip very badly," as he expressed it. After a time he recovered, without the assistance of a doctor. But from that time he always walked with a considerable limp. There was so much enlargement of the bone about the trochanters, by a large deposit of callus, that there could be but little doubt that he had sustained a former fracture.

When Dr. Crawford arrived I told him my diagnosis, and after making a very careful examination, he said the joint was certainly dislocated, and that the crepitation left no doubt of the fracture.

We administered chloroform until he was thoroughly relaxed, and each of us made repeated attempts to press the head of the bone into the acetabulum. After we had almost despaired of reducing the luxation, I determined to make one final effort. Placing the fingers of both hands over the anterior portion of the ilium, and both thumbs behind the head of the bone, I pressed it forward with all the strength I could command, until I forced it over the edge of the acetabulum, and it dropped into the socket.

The fracture was extra-capsular. We adjusted the fragments as best we could, and applied the long, straight splint, making extension and counter-extension by means of a strap, supported by the perineum. Our prognosis was unfavorable as to the further usefulness of the limb. I visited him on the fourth day, and found he had loosened the bandages, and that the fractured ends of the bones were displaced. I again made extension and placed the bones in coaptation, and put on the bandages. But I concluded the straight splint was not suitable. I wrote to Dr. C. to set a day to meet me, and unless he could suggest something better we

would replace the straight splint with a double-inclined plane. He met me on the 28th, nine days after the accident, and we carried out my suggestion, leaving the upper end of the splint so long that nearly the whole weight of the body, which was very light, suspended by the knee, over the angle of the splint. We padded the splint well and bound the leg down firmly, so that he would be compelled to keep it in position. The thigh was bound to the splint with a separate roller, just tight enough to prevent it from becoming displaced to either side.

About the middle of February he was taken with a bilious attack—so called for want of a better name—with severe vomiting, which continued several days; but though severe, and at one time somewhat alarming, I kept the splint in position until the 15th of March, about eight weeks after the injury. I removed it, and found the bone had united.

Result.—At this time measurement from the anterior superior spinous process of the ilium to the interior malleolus shows a shortening of two-and-a-quarter inches. From the top of the trochanter major to the external condyle, or external malleolus, shows a shortening of two inches—indicating that his femur had been shortened two inches by the former injury, which had had no treatment, and only a quarter of an inch by the latter, which was treated as above. He and his friends assert that he limps but little, if any, more since his recovery from the latter injury than he did before sustaining it.

Remarks.—It seems to me that, in this accident, the dislocation must have occurred from a twist of his leg by the limb of the tree, while on the wagon, and that the fracture was caused by the fall, striking the great trochanter on the frozen ground, or by a further twist of the leg, as, from the very nature of the case, the dislocation must have preceded the fracture.

I regret very much that the length of the two femurs was not measured, from the great trochanter to the external condyles, and compared at the time of the accident, which would have settled, beyond the possibility of a doubt, the amount of shortening caused by the injury which I treated.

From the difficulty experienced in forcing the head of the bone into the acetabulum in this case, I should think it

altogether improbable that it could be accomplished in a like accident in a person of even ordinary muscular development.

Hamilton, in his work on "Fractures and Dislocations," cites a case where the patient died some twelve years after the accident, and upon an autopsy being made, "the head of the femur still remained above the pubes, and was in no way connected with its neck or shaft." This is positive proof that the accident described above does occur. The same author, after referring to the above case, says, "the well-authenticated examples of reduction of the dislocation, where the femur was broken also, are still more rare; and several of the recorded examples which my researches have discovered need additional confirmation."

I have been unable, in the limited number of works on surgery at my command, to find the report of a case of dislocation of the femur and fracture of the neck where the head of the bone was replaced in the socket.

Female Railroad Association.

Dr. Carrie Lieberg, of Hope, Idaho, (according to *Med. Sen.*, quoted by *St. L. Clin.*, Oct. 1894) has recently been appointed Division Surgeon upon the N. P. R. R. This is the only instance of such distinction of a lady that we know of in the United States.

Appendicitis—Have it to be Fashionable.

"Madam, your husband has appendicitis, but I think he will recover."

"Oh, doctor, I am so glad. Almost every family on this street has had a case of it, and I was getting positively ashamed."

Swell of the Period.

"Doctor, I have sent for you; but I confess I have no faith in your science."

"That doesn't matter. A mule has no faith in the veterinary surgeon; but he cures him all the same."—*Ex.*

Clinical Reports.

Brief Report of All the Abdominal Operations done in my Private Sanatorium.

By JOSEPH TABER JOHNSON, M. D., of Washington, D. C.,

HONORARY FELLOW OF THE MEDICAL SOCIETY OF VIRGINIA, ETC.

Whole number of laparotomies, 108. Number of recoveries, 102; deaths, 6. Deaths occurred in the following order: Nos. 8, 42, 44, 57, 76, 82.

No. 8, age 64, had a large *sarcomatous ovary*—did so well that she sat up on the fourteenth day, when she was seized with tetanus and died three days later.

Then came a series of thirty-four sections without a death.

No. 42 came in with a large *ovarian tumor*; there was also a reddish sprouting growth at the navel. With present experience, she would not have been admitted at all. Hers was not an operable case, and was no credit to surgery. She was seen by Drs. Sutton, of Pittsburgh, Kelly, of Baltimore, and Eastman, of Indianapolis, during the session of the American Medical Association in Washington in 1891. They all thought she had a chance of recovery. The tumor proved to be malignant, and adherent to everything it touched. The difficulties were very great in securing a pedicle and arresting hæmorrhage. She died the fourth day.

No. 44 died on the sixth day of *septic peritonitis*.

No. 57 was a case of *abdominal as well as pulmonary tuberculosis*. Operation was declined after she was admitted. She was too ill to walk, and had to be carried to her room. Consulting physicians decided, however, that she could take ether safely, and I was persuaded, against my judgment, to operate. The hope was that her tuberculous condition would be benefitted by opening the abdomen and removing a quantity of free fluid as well as the contents of a tubo-ovarian abscess. This hope proved delusive, as she died thirty-six hours after the operation.

The succeeding nineteen cases recovered—not exactly “without an untoward symptom,” as we so frequently read in the journal reports, but with the usual convalescence of this class of patients.

No. 76 had an ovarian tumor successfully removed three

years prior to her second admission into the same room. At the time of the first operation, I was strongly tempted to "remove the other ovary," as it was slightly diseased, but the "conservative" idea prevailed, and it was left, with the hope that she might subsequently conceive. She remained fairly well for two and a half years, when her health began rapidly to fail. While she generally grew thin, her abdomen grew large. The tumor proved to be cancerous, and she died within the week of her operation.

Case S2 was a *uterine cancer*, which might perhaps have been removed through the vagina.

In a dozen or more of these total *extirpations per vaginam* (hence not included in this list of *laparotomies*), the patients nearly all had a return of the disease in the ovaries, tubes or broad ligaments, within two years. In this case, the effort was made to remove all infected tissue. The vagina was made aseptic, the uterus curetted, packed with gauze, and the cervical canal closed with sutures. The vaginal wall was then separated from the cervix, the uterine arteries tied, and the vagina tamponed with iodoform gauze. The abdomen was then opened, the ovaries, tubes and uterus completely removed. This combined method requires too much time. Total extirpation through the abdomen alone is a better operation. The previous work can be done the day before with or without ether. This patient died.

The remaining 28 of the 108 cases all recovered from their operations and left the Sanatorium.

Of the 108 laparotomies—

Thirty-five operations were ovariectomies. Four died—three cancerous and one tetanus.

Fourteen were hysterectomies. All recovered.

One was hysterectomy for cancer of uterus by the combined vaginal and abdominal method. Died.

Forty-nine were ovaries and tubes removed for variety of causes, mostly pus or bleeding fibroids. All recovered.

Two were extra-uterine pregnancy. Both recovered. One had a fully-developed fœtus in her abdomen over a year.

One operation was for general tuberculous. Died.

One operation was for sarcoma of testicle retained so high up as to require opening the peritoneal cavity. Husband of one of the ovarian patients. Operation by Dr. John B. Hamilton. Recovered.

Two were exploratory incisions—both inoperable. Recovered.

One was for appendicitis. Recovered.

One operation for incarcerated hernia. Appendix adherent, and ligated by Dr. J. Ford Thompson. Recovered.

One operation was for abdominal pain from bands and adhesions. Recovered.

The Sanatorium referred to in this report is in a clean and healthful location; is made thoroughly clean inside from top to bottom, and kept so; has a capacity for only fifteen patients, and averages about two-thirds full. Its operating-room is 10x14 feet—has a marble floor, tiles, and Kean cement sides and ceiling, which can all be frequently scrubbed. Furniture—brass operating-table, glass-topped or white iron tables for instruments and nurses' supplies; plenty of hot and cold water near by, but no sewer-connections are allowed in the operating-room.

In operating, the aim has been to do quick, clean, thorough work, with as little handling and exposure of the abdominal contents as possible, and according to methods proved the most successful in the hands of our best men.

The published records of the big general hospitals (in our city at least) do not compare favorably with those of private special hospitals, any more than the work of the busy general surgeon compares favorably with that of the special gynæcological or abdominal surgeon. In other words, it is reasonable to suppose, what is actually the fact, that an operator who is free from the contaminating influences of offensive and septic discharges from wounds—surgical or obstetrical—is less liable to infect his patient than one engaged in general surgical and obstetrical work.

So ought a small hospital, devoted solely to gynæcology and abdominal surgery, to show better results than a large institution conducted partly as a lying-in hospital and partly for the medical and partly for the surgical, including the abdominal, diseases of women.

My own abdominal work has been much more successful since resigning all connection with other hospitals. The year of my service in Columbia Hospital for Women and

Lying in Asylum, I did in that hospital twenty-seven laparotomies, with seven deaths. My abdominal work, while gynecologist for Providence Hospital, had a less mortality, but my mortality has been much less in my own hospital—the records of which show, in 1893 and 1894, up to date, thirty-seven abdominal sections (eight of which were hysterectomies for fibroid tumors and one for cancer of the uterus), with only two deaths, and they both died from cancer operations.

The truth of this statement is freshly illustrated by the fact that one of the surgeons of one of these hospitals has just opened a private hospital, where he expects to do better and more successful abdominal work than he can in a large public institution.

The last Annual Report of Providence General Hospital in this city shows nineteen laparotomies, with eight deaths,—a mortality of 42.10 per cent.

The Annual Report of Columbia Hospital for 1892 shows fifty-seven laparotomies, with nine deaths—a mortality of 17.64 per cent.

Report of same hospital for 1893 shows ninety-three laparotomies, with thirteen deaths—a mortality of 13.97 per cent.

The laparotomy mortality in the Garfield Hospital of this city, from the best information obtainable from their reports, is about 20 per cent.

In October, 1891, I published, in the *Virginia Medical Monthly*, a list of one hundred miscellaneous laparotomies, mostly done in Providence Hospital, with eighty-seven recoveries and thirteen deaths.

I now take pleasure in reporting a series of one hundred and eight private hospital laparotomies, showing considerably less than one-half this mortality.

To See the B acillus Tuberculosis with a Low Power.

The *Microscope* (quoted by *Bul. Phar.*, Oct 1894) states that if this bacillus is properly stained red on a blue field, it will appear plainly and beautifully—all that an amateur would care to see—with a one quarter inch objective.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

Case of Fronto-Ethmoidal Mucocoele. Remarks on the Intra-Nasal Surgery of the Frontal Sinus.

Negro, aged 54, twenty years ago, received a blow from a piece of granite. Present scar, one inch long, extends transversely across region of left frontal eminence. About two years ago, patient began to feel sensation of fullness in upper left side of nose; then there appeared a small tumor in the inner angle of the eye, posterior to the position of lachrymal sac; later, this swelling and part of head adjacent became painful. Externally, this tumor resembled a mucocoele of the lachrymal sac; it could be emptied by pressure, but no fluid would make its appearance in the nose; the tumor would re-appear as soon as the pressure was removed. There was no sign of acute inflammation of the parts; no bulging of the left frontal eminence. Anterior rhinoscopy revealed an unusual condition of affairs. The middle turbinate was normal in appearance; it was, however, pushed inward toward the septum. External to the upper part of anterior end of the middle turbinate—i. e., in the space between the middle turbinate (its anterior end) and the external wall of the nose, there was a tumor, which was larger than the anterior end of the middle turbinate, and its covering proved by inspection to be bone covered with mucous membrane. A trochar passed into this tumor caused, after pressure on the swelling in inner canthus of the eye, the escape of a thick, mucilaginous, grayish, odorless, semi-fluid mass. The swelling in the internal angle of the eye would disappear when this was done. The tumor in the nose above described remained. To posterior rhinoscopy the nasal cavities were normal.

As washing this cyst out did not produce a healing, it was decided to cut down on the mucocoele where it appeared at the internal angle of the eye. The sac would re-appear whenever the nose opening into the tumor was allowed to close. Accordingly, a four per cent. cocaine solution was injected into the tissue over the swelling at the inner canthus,

after which the swelling was cut down upon and opened. A probe passed into this cyst went directly backwards, showing that there had resulted a destruction of the anterior, middle, and posterior ethmoidal cells, transforming the whole into one big cavity with more or less irregular walls. The tumor in the inner angle of the eye had been caused by the absorption of part of the lachrymal bone and the forcing of part of the contents of the mucocoele into the opening caused by this absorption.

The case was one of fronto-ethmoidal mucocoele, taking its origin, it is not unlikely, in the frontal sinus, which was injured by the blow received many years before. This blow had caused, possibly, a partial obstruction of the naso-frontal duct. Later, an inflammation of the frontal sinus had brought about complete closure of this duct. In the course of time, a mucocoele was established in the frontal sinus. The contents of the mucocoele increased. The points of least resistance were the lachrymo-ethmoidal cells anteriorly, the middle ethmoidal cells posteriorly; absorption of the bony walls, the result of pressure, took place in both directions. In the orbit, the part of the lachrymal bone subjected to the pressure was absorbed, the periosteum bulged, and we have the inner canthal tumor. Backwards in the nose, the pressure was sufficient to cause absorption of the greater part of the ethmoidal cells. Forwards in the nose, there seems to have been a considerable stretching of the parts anterior to the lower part of naso-frontal canal, beyond the lachrymo-ethmoidal cells, the part corresponding in the nose to its outer wall, at the junction of the anterior end of the middle turbinate with the body of the ethmoid.

This suggests the possibility, in cases of suspected frontal sinus disease, of making an exploratory puncture into the lower part of the frontal sinus at this point—viz: the outer part of the nasal wall just below the junction, anteriorly, of the middle turbinate with the ethmoid. A trochar, however, passed through the outer wall of the nose at this point would pass into the lachrymo-ethmoidal cells. The trochar would pass internal to the anterior face of the lachrymal bone (the face furnishing a part of the bony wall of the

lachrymal canal). The trochar, forced still further, would pass through the lachrymo-ethmoidal cells into the lower part of the frontal sinus. The lachrymo-ethmoidal cells vary much in their development. In some cases, they are so strongly developed, and protrude so far into the nasal cavity, as to suggest, when seen by anterior microscopic examination, a double middle turbinate. In these cases, erectile tissue (I judge from appearances) cover the inner face of the bony plate covering the lachrymo-ethmoidal cells. In the majority of cases, the inner face of the lachrymo-ethmoidals is more or less gently convex. In some cases, the lachrymo-ethmoidal cells extend much further forward than in others. In one specimen I have in my possession, the lachrymo-ethmoidal cells are practically absent, the lachrymal bone being, for most of its extent, the outer boundary of the nasal cavity for that region.

In passing a trochar into the frontal sinus from the nose, the point selected should be as high up as possible to conform to the area above stated—i. e., through the outer wall of the nose just below the anterior junction of the middle turbinate with the ethmoid. The trochar should be passed upwards and backwards—very slightly outwards, not inwards. The outer wall of the lachrymo-ethmoidal cells is very thin, and easily pierced with the trochar. We should remember that when this first thin plate of bone has been passed we are not into the frontal sinus, but into the lachrymo-ethmoidal cells. Do not change the direction of the trochar, but continue to push it until it passes through a second thin plate of bone—the anterior-inferior wall of the frontal sinus.

It might be suggested that a better place for intra-nasal puncture of the frontal sinus would be in the space just external to inner plate of the lachrymo-ethmoidal cells, between them and the descending plate of the middle turbinate just in the angle made by these two plates. There is, however, more than one objection to this procedure. In the first place, the trochar might pierce the descending plate of

the middle turbinate, re-enter the nasal cavity proper, and be forced into the cribriform plate of the ethmoid—a thing very undesirable, and very likely to happen in many cases. Again, the erectile tissue over the middle turbinate makes the point less easy of exact access. A trochar passing upwards and backwards, at angle of about 45° , through the lachrymo-ethmoidal cells at the point of preference, would pass exteriorly to the cribriform plate, even should it attain its level. The frontal cells lie, in most cases, entirely above the level of the cribriform plate of the ethmoid.

These remarks apply to puncture of the frontal sinus and not to puncture of the naso-frontal duct, which can be reached at a much lower level and with some ease in many cases. In others, the size and shape of the middle turbinate, as well as its position, render access to this duct not an easy matter. Of course the trochar, if turned too much outwards in making its way into the frontal sinus, as above described, might pass through the lachrymal bone into the orbit—a thing, however, I should think, might be avoided with care, and not likely to do any permanent injury were the trochar aseptic. The operation, however, of intra-nasal exploratory puncture of the frontal sinus requires this care, and should not be undertaken without an accurate knowledge of the anatomy of lachrymo-ethmoidal region, remembering always the variations in the development of the frontal and of the lachrymo-ethmoidal cells. Of course deviations of the septum may render this method of exploration of the frontal sinus impracticable.

In opening the frontal sinus, as above described, the patient's head should be thrown well back. In a certain proportion of cases, the anatomical variations of the bridge of the nose are such as to render this intra-nasal puncture of the frontal sinus unsafe, if not impossible. In the negro, as a rule, the anterior end of the middle turbinate, at its junction with the ethmoid body is in full view, and the operation not a difficult one. The variations in degree of development of the frontal cells should, in making this operation, always be borne in mind.

Note on the Effect of Nasal Breathing Upon the Air Contained in the Lachrymal Duct.

The following case shows that, under certain conditions, in forcibly blowing of the nose, the air contained normally in the lachrymal sac and duct may be entirely exhausted :

Mrs. S, aged 33, has suffered for fourteen years with some affection of the right lachrymal sac, inflammatory, which resulted in the constant accumulation of sero-purulent fluid in the sac. This accumulation could be emptied into the nose by pressure applied to the sac externally. In March, 1894, Mrs. S. had an acute inflammation of the sac, which resulted in the formation of a cystic sac situated below and anteriorly to the position occupied by the lachrymal sac. This sac communicates with the lachrymal sac into which its contents can usually be forced by an alternating up and down pressure upon it, made with the finger-tip. At times, however, she is unable thus to empty the secondary sac of its contents. When this is the case, the fluid accumulates in the sac, and the tumor becomes painful. She has found out that at these times she can empty the sac by forcibly blowing the nose, when she will feel the contents of the secondary sac slip into the duct and thence into the nose. She has noticed also that after the sac is thus emptied, its walls "fall in," so as to cause a "depression where the tumor was."

This emptying of the sac is, of course, due to atmospheric pressure upon the skin over the sac. That the patient, at these times, cannot empty the sac by finger-pressure upon it is probably due to anatomical peculiarities of the communication between the lachrymal and the inflammatory sac. Direct pressure serves only to close more tightly this communication ; while, after the air has been exhausted from the duct, a change in the direction of the channel of communication is produced, and thus allows the escape of the contents of the sac. The lachrymal duct is thus emptied of its contained air by the air forced past its nasal exit, just as in the DeVilbiss spray the air in the upper tube by pressure upon the syringe which forces the air from the lower tube past the tip of the upper.

This case brings up the interesting question as to what

part nasal breathing takes in the transmission of tears into the nose. It is a question not easily answered. In the case of Miss G., aged 20, there had existed from birth a complete bony occlusion of the right nose, the bony partition extending from the floor to the roof of the nose near the posterior nasal exit. In this case, there was no overflow of tears. The right duct transmitting the lachrymal flow as perfectly as the left. In the case of negro girl, reported by me, in which there had been complete destruction by syphilis of both lachrymal ducts, and the greater part of both lachrymal sacs, there was no overflow of tears. This shows that the lachrymal duct is not necessary that tears may escape from the conjunctival sac.

In some cases, forcible blowing of the nose causes the air to pass upwards through the lachrymal duct, and out through the puncta. In these cases, there can be little doubt that there exists an abnormal patency of the nasal exit of the duct, caused either by disease or a direct opening into the nasal cavity of the duct. In what is termed the normal exit, where the duct passes downward beneath the mucous membrane for some distance, and then opens beneath a flange of mucous membrane, it is not at all possible, by blowing the nose, to force the air from the nose into the lachrymal duct. In these cases, it seems most likely that in blowing the nose there is, to some extent, as in the case of Mrs. S., a rarefaction of the air in lachrymal duct. If this be the case, then nasal breathing does assist in the transmission of tears from the eyes into the nose. It is to be noticed, however, that in the case of Mrs. S. the upper end of the lachrymal duct is completely closed—which fact accounts for the readiness with which it can be emptied of its contained air.

If, again, in nasal breathing there does occur rarefaction of the air contained in the lachrymal duct, and the duct's nasal exit is so arranged as to prevent the entrance of air into the duct from this end, then there must necessarily be constantly forced into lachrymal sac, through the puncta, along the canaliculi, air as well as lachrymal secretion, and

it is not improbable that this is the case. That, as in the case of Miss G., where nasal breathing was impossible, the tears did not overflow, does not prove that nasal breathing has no influence in the transmission of tears along the lachrymal duct. • It proves only that it is not necessary.

Opening of the Mastoid Antrum.

Randall (*Archives of Otology*, Vol. XXIII, No. 3), from the examination of 500 skulls, draws the following conclusions:

“The surgeon can, in no case, be absolved from proceeding with this operation as though he were sure that the lateral sinus or the middle cerebral fossa lay so directly in his track that only the utmost care would avoid opening them unintentionally. The drill and trephine must be henceforth regarded as distinctly less safe than the chisel. The mastoid surface should be freely exposed and carefully scrutinized, since the lateral sinus may lie directly in the usual operating track, so superficial that it may be discerned through the thin bony covering. The upper posterior margin of the auditory meatus with its *spina* (which was lacking in but five among two hundred temporals, each time on the right) constitutes the most reliable guide to the point of entry, since among more than 1,100 temporals I have never found the middle cerebral fossa to extend lower than this, and the sigmoid sulcus almost never so far forward. The chiselling should begin as close as possible behind the *spina*, and be carried cautiously inward, forward, and slightly upward, in those cases where the mastoid surface offers no special indications, and the intention is to open the antrum. This cavity ought to be met at a depth of less than 20 mm., and deeper penetration is rarely safe, although my measurements would indicate that the facial canal and external semi-circular canal lie never less than 16 mm. from a point 5 mm. behind the *spina*.”

The Decreasing Percentage of Myopic Eyes—Through the Optical Correction and Treatment of Ametropia.

Risley (*Amer. Otol. Society*, Washington, May, 1894,) presented a paper with the above title. In 1881, R. argued

that the strain made necessary by the congenital anomalies of refraction, particularly astigmatism, was the essential cause of the pathological states underlying the myopic eye; that the uniform correction of these anomalies in all asthenopic eyes in the community applying for relief would manifest beneficial results in the diminution of both the percentage of myopic eyes and in the grade of myopia found after twenty years of such optical corrections. A careful analysis was made of all the cases of ametropia seen in his own practice since January 1st, 1874, and of all distance glasses furnished on prescriptions of ophthalmic surgeons by two large optical companies for the same period. Conclusions were based upon approximately 200,000 eyes. In the private work, where the patients were drawn from the more studious portions of the population, and where the corrections were all made under mydriatic, there was found 22 per cent. of myopic refraction, 90.33 per cent. of myopic eyes being astigmatic. In the opticians' books only 21.6 per cent. were for myopic refraction, and of these 60 per cent. were astigmatic. In the first period of years there was found in the private case books 28.43 per cent. of myopic refraction, which steadily fell, through the succeeding periods, to 16.78 per cent. in the last period. The fall was from 25.40 per cent. to 15.2 per cent in the opticians' books." M. of 10D, or greater, had fallen approximately 50 per cent. A nearly similar fall was noted in the intermediate grades, *but in M. of less than 1D the percentage increased.* (Italics mine.—J. D.) The explanation was that by the treatment and optical correction of ametropic eyes, with commencing M., the further progress of the malady had been arrested. The correction of the asthenopic eyes with ametropia, particularly with astigmatism, had prevented the commencement of the myopic distention of the ball; hence the decreasing percentage of M. in the community." (Abstract given in the *Amer. Jour. of Otol.*, August, 1894.)

In presenting this paper, Risley called attention to "certain fallacies" that "present themselves in such a study"—e. g., it may be urged that in the first years covered by the

investigation the accumulated myopia of former years would enter to swell the number of myopic eyes, and that in later years a relatively larger number of hyperopic eyes would present themselves for treatment as the value of correcting glasses in relieving headache became more widely recognized by physicians and laity. But this is amply offset, in all probability, by the greater frequency with which, in later years, the myopic patients consult the surgeons for correction of their myopia, while, in the first years, they simply applied to the optician."

Dr. Risley's paper is an interesting one. The "certain fallacies" are, however, strong enough to make one who has not set out to prove the proposition, that the early correction of ametropia with asthenopic symptoms may prevent myopia, find in the statistics not overmuch to convince him that this proposition is true.

When we consider the increasing importance which, for the past few years, physicians have been attributing to eye-strain, the increase in the number of oculists and opticians, the great impulse given to study of the eye, so that but few now-a-days are saved from a visit to an oculist's office, one is forced to the conclusion that a constantly-increasing number of nearly normal eyes are examined, a constantly-increasing number of eyes slightly astigmatic (hyperopic), are fitted with glasses, and it seems no wonder that the records for the past twenty years show a constantly-decreasing *per cent.* of myopic cases. As we understand, from Dr. Risley's report, his case-books show a decrease in myopic cases from 28.43 per cent. to 16.78 per cent., and in M. of 10D, or more, from 2.58 per cent. to 1.37 per cent. Now, comparing these two "results," what do we find? In the first place, that the present per cent. of myopic cases is only 55 per cent. of the per cent. it was in 1874; in the second place, that the present per cent. of myopic cases, of 10D or more, is 52 per cent. of the per cent. it was in 1874; 55 per cent.; 52 per cent.—results too closely similar to be without meaning. And results, too, they are capable of the following interpre-

tation—viz: that the relation of the number of myopic cases of 10D, or more, to the whole number of myopic cases has practically *not* been changed.

This one fact is so striking that it must at once challenge the correctness of Dr. Risley's deductions. And further, the tables show that "*in myopia of less than 1D the percentage has increased.*" Surely, while there is a plain reason why this should be so, no one can, for a moment, deduce from this fact that the use of correcting glasses prevents myopia.

We must leave further consideration of Dr. R.'s paper for another time, adding only this, that it does not seem to us to furnish the proof he would find in it that "the strain made necessary by the congenital anomalies of refraction, particularly astigmatism, is the essential cause of the pathological states underlying the myopic eye.

The Training Schools for Nurses,

At St. Luke's Hospital and at Virginia Hospital—both of Richmond, Va.—are now in full operation, and are constantly supplying trained nurses at short notice, at fees even more moderate than those charged by the hospitals of Northern cities. Of course, parties requiring these lady nurses must obligate themselves for all expenses of travel, board, etc., in addition to the charges of from \$10 to \$20 per week, according to the nature of the services expected.

The Halcyon

Is the name of the excellent Sanitarium for Diseases of Women, established by Dr. J. B. S. Holmes (formerly of Rome Ga.), at 17 West Cain Street, Atlanta, Ga. The building is of brick and stone, with hard wood floors and furnishings, and has the approved modern appliances and arrangements which make it peculiarly well fitted for the purposes of a gynæcological hospital. The fact that so eminent a gynæcologist as Dr. Holmes is in charge, gives assurance that patients needing the special attention of a gynæcologist cannot do better than put themselves under his care.

Department of General Surgery.

Conducted by STUART MCGUIRE, M. D., RICHMOND, VA.

One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital;
Professor of Principles of Surgery in the University College of Medicine, Richmond, Va.

Treatment of Enlargement of the Prostate by Removal of the Testes.

This is the title of an article by C. Mansell-Moullin in the *Medical Press and Circular*, September 19th, which recently created so much discussion, and the sterling reputation of the writer and the sensational character of the procedure advised will attract wide attention to the paper.

Mr. Moullin reports the case of a man, 81 years of age, who applied to the London Hospital for treatment on June 21st, and was admitted as an in-door patient. He had suffered for years with occasional retention of urine from enlarged prostate, relieved by a catheter with more or less difficulty, and returning after an interval of a month or two.

When examined, his bladder was found distended with urine until it reached the umbilicus, and his prostate smooth, hard and much enlarged. The finger could not reach above it, and both lateral lobes were very prominent.

All efforts to pass a catheter failed, and the bladder was finally aspirated above the pubis, and a large quantity of urine, neutral in reaction and containing a considerable amount of pus, drawn off. This relieved the congestion, so that the next day the patient managed to pass a little urine at frequent intervals, and prevented the recurrence of the extreme distention that had been present. For a fortnight, matters went on in this manner. No catheter of any kind could be introduced. As soon as the point entered the prostatic portion, it met with a dead block, which could not be surmounted or turned by any of the well-known devices, and every attempt was followed by hæmorrhage. The patient was still able to pass urine in small quantities; but although all the ordinary measures were tried, the difficulty increased instead of diminishing; the amount of pus in the urine grew larger; the cystitis became more marked, and it was evident that, unless some plan for giving free exit was adopted, the patient's strength would fail.

It was feared that supra-pubic prostatectomy involved too much risk; the growth felt as large as a Tangerine orange,

and from the way in which the catheter was stopped, must have been to a great extent vesical, with a channel by one side of it down which the urine could trickle. The chance of success, if a supra-pubic urethra was formed or a perineal drain inserted, was better, but with a restless and fidgety old man of eighty-one, who was rapidly becoming more and more childish as his strength gave way, the prospect could not be considered a good one. Accordingly, castration was proposed and agreed to.

The operation was performed a fortnight after the patient's admission, and, so far as this is concerned, requires no further mention. There was but very slight shock, and no rise of temperature. One side healed at once; the other became infected, and the wound suppurated a little. From the following day, the urine came more freely. On examination, ten days later, the prostate, as felt per rectum, was much smaller. Three weeks after the operation, it had simply disappeared. An ordinary silver catheter (not a prostatic one) passed in easily, without requiring to be depressed more than usual; and when the finger was introduced into the rectum, all that could be felt was a fusiform thickening along the catheter, not sufficiently dense or large to prevent the shaft being felt distinctly through it the whole way. The bladder was beginning to regain power and the urine had become acid.

Mr. Moullin lays no claim to originality in the treatment of enlarged prostate by castration, but says that, "Undoubtedly the credit of having the courage of his convictions, and of priority of operation, belongs to Raunn, of Christiania."

There are now on record eight cases in which this operation has been performed, with the express object of effecting a reduction in the size of an enlarged prostate—two by Raum, of Christiania; one by Moullin, of London; and three by Francis Haynes, one by Fremont Smith, and one by J. William White, of this country.* All the cases were attended by greater or less atrophy of the gland, but in none was the effect of castration so immediate and decided as in the case just cited.

*Meyer and Haenel, according to *Medical News*, October 20, 1894, reports an additional case (*Centrabl. für die Krankheiten der Harn-und Sexual Organe*, Bd. v. Heft vii, 1894, p. 329.)

That a hard fibro-adenomatous enlargement of the prostate, such as existed in Moullin's case, could actually disappear in three weeks, is marvellous. That it did do so, no one will question.

The prostate is a purely sexual organ, and it has long been known that in man, as well as in animals, it fails to develop if castration is performed in infancy, and that atrophy of the normal prostate occurs if the testes are removed during adult life; hence, the treatment of enlarged prostate by castration is not illogical.

The number of cases thus far reported are, however, too few to form an estimate of the value of the operation, and further clinical experience will be needed to justify a surgeon in advising a patient to submit to emasculation, especially when relief can be obtained by the formation of a supra-pubic artificial urethra, first suggested by Dr. Hunter McGuire, of Richmond, an operation which experience has proved to be both safe and satisfactory.

New Methods of Treating Hydrocele.

The classical method of treating hydrocele by injection of tincture of iodine, while often successful, is very painful, and one of the following three methods described in the *Dublin Journal* can often be employed with quite as good results:

(a) The first is that practiced by M. Neumann, who operates thus: He taps the sac with the usual trocar, and while the liquid is flowing out he pushes in still deeper the canula and fixes it by a bandage in the parts, where he leaves it two days. In six cases thus treated the union of the internal walls was effected without inflammation. When the canula is withdrawn, compresses of lead lotion are applied, and the patient cured in about a week.

(b) The second is that adopted by Dr. Buschke. After disinfecting the part, he inserts a large-sized trocar, and when the contents are removed he injects a weak solution of phenic acid, which he allows to remain a few minutes, manipulating the parts in the meantime. The trocar is inserted a second time and the scrotum entirely transfixed

from below upwards, the second opening being made in the superior portion of the sac. Through the canula is passed a fenestrated drainage-tube, and the instrument finally withdrawn; an aseptic bandage completes the operation. The patient can go about on the same day, and on the fourth or sixth day the drain is removed and a new dressing applied. Thirteen patients were treated in this way with very satisfactory results.

(c) The third method is applied chiefly to children. A large curved needle, armed with silk thread, is passed through the sac from above downwards. A fine trocar draws off the liquid, and then the ends of the thread are tied above the scrotum, and the apertures carefully sealed up with collodion. The threads are removed at the end of six or eight days, and the apertures again stopped with collodion. By this time the patient may be considered as cured.

Electric Illumination in Abdominal Surgery.

Dr. Howard A. Kelley, of Baltimore, has adopted the electric light as a perfect means of artificial illumination in abdominal surgery, viewing it as an indispensable part of his armamentarium. In hospital work, he uses a portable drop-light, consisting of a sixteen-candle power lamp attached to a short, wooden handle, and connected with the source of supply by insulated wire cords. The light was at first used to secure independence of sunlight, but it was soon found that in many cases it is superior to even the brightest sunlight. By means of such a light, held in the hand and reflected according to will in any direction, every accessible part of the pelvis appears with vivid distinctness, and the smallest oozing vessels can be picked up and torn surfaces accurately united by delicate sutures under direct inspection. Half of the lamp may be surrounded by a reflector, painted black and covered with flannel on its convex surface, in order to protect the eyes and face of the operator from light and heat. The light is to be held steadily and properly directed, about six inches above the patient's

body and a short distance below the operator's face. When a street current or house-current cannot be tapped, a good light may be secured by means of a portable storage-battery. Under some conditions a head-light may be employed, the light being condensed by a reflector behind and a lens in front, the lamp being attached to a flexible steel band which fits the head.

For the Lubrication of Catheters.

Dr. John M. Kitchen, in the *New York Medical Journal*, recommends castor oil as a lubricant for catheters, bougies and for general surgical purposes, on the ground that it is non-irritating, very tenacious and antiseptic, and seems to preserve rubber and silk instruments.

The Paris correspondent of the *Lancet* says that Professor Guyon, of the Necker Hospital, uses the following formula :

R_y—Bichloride mercury..... gr. j
 Glycerine.....
 Water.....āā ʒij
 Powdered soap..... ʒiv—M.

This ointment is claimed to be unirritating to the urethra, and to possess greater lubricating power than either oil or glycerine.

Carbolized oils and vaseline, which were at one time largely used, seem to have been abandoned, since bacteriological research has proved that carbolic acid in combination with grease is inert.

Kissing and Handshaking.

The *Pacific Medical Journal*, Oct. 1894, notes that kissing, at least in public, was long ago considered a misdemeanor in Boston, which was punishable by a fine or imprisonment or both; but it remained for Baker, Russia, to establish a society for the suppression of handshaking, as it is considered possible to communicate diseases thereby.

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

Management of Eczema.

Malcolm Morris, in opening the discussion on the Management of Eczema before the Section of Dermatology of the British Medical Association at its last meeting, expresses the opinion that the constitutional element is secondary as an etiological factor of the disease, the lesions being principally the result of parasitic irritation. Therefore, the fewer the number of internal remedies used, the better.

Indications for internal treatment must be very definite. When the lesions are of an acutely inflammatory type, he recommends that *vinum antimoniale* be given in doses of min. x-xij, twice or thrice in the twenty-four hours, until a subsidence in the intensity of the inflammation becomes manifest. Arterial tension is a special indication for its use; depression a strong contra-indication. If a neurotic element be present, nerve sedatives and tonics must be combined with local treatment. The sheet anchor in such cases is *opium*, to be given until the nerve storm subsides. The constipating effect of the opium is to be counteracted by the use of saline aperients. *Sulfonal* may be substituted for opium as a nerve sedative. If there co-exist nervous depression, *quinine alone or combined* with opium has been most useful. *Phosphorus* and *strychnine* do good. Deficiency in nerve force, without acute inflammation in the lesions, is to be considered an indication for the use of *arsenic*. A marked tendency to exacerbation of the disease is combatted by *ergotin*, because of the control which it exercises over the vaso-motor system.

General rules of treatment apply to mal-nutrition, weakness, anæmia, disturbances of the abdominal and pelvic viscera. Hysteria and the neuroses of the climacteric are to be treated with musk, valerian, etc.

No general rule can be fixed as to diet. Morris believes,

with Francis Bacon, that "a man's owne observation, what he findes good of, and what he findes hurt of, is the best physick to preserve health."

Local treatment of eczema is of the first importance. Generally speaking, every case must be treated as if it were of parasitic origin.

The objects aimed at by local treatment are, first, to destroy micro-organisms; secondly, to protect the inflamed surface from the air and further microbic invasion; and, thirdly, "to soothe irritation." The best remedy for *local use* in dry chronic eczema, especially of seborrhœic origin, is *sulphur*, and next, *resorcin*. These agents are not only parasiticides, but have a keratalytic action upon the horny layer and bring away the micro-organisms which have penetrated into the deeper parts of the epidermis.

Other antiseptic remedies of value are *salicylic acid*, *white precipitate*, *boric*, and *carbolic acid*. For continuous application of local remedies to limited areas of chronic character, the *gutta percha plaster mulls* of Unna were found to be of the greatest value, especially *mercury*, *carbolic*, and *zinc oxide*.

To sum up the principles of local treatment of eczema: Soothe when the inflammatory process is acute; stimulate when it is chronic, and in either case keep the parts under continuous influence of antiseptics and parasiticides, of a strength carefully regulated in accordance with the intensity of the disease and the sensitiveness of the skin.

A too-bracing climate, especially where northeast winds are prevalent, must be avoided in overcoming the tendency to recurrence of eczema. There are no general rules as to climate, however. Each patient must find that which suits his own case. Sea-bathing and sea air are generally hurtful, and mineral waters and springs of uncertain value.

Theory of Parasitic Invasion versus Dyscrasiæ, Diatheses, etc.

It can scarcely be said that there are two schools of dermatology; the specialty is yet too young to admit of such a separation. But there is unquestionably a tendency on the part of some dermatologists to express themselves for

the constitutional origin of skin diseases; others for the local, with general conditions as accidental or secondary. It is clear, from the summary given above, that Morris inclines to the latter view. Unna, of Hamburg, is outspoken in his opinion that the vast majority of diseases of the skin are the result of parasitic invasion, and consequently local. He applies the principle of chemotaxis,* first suggested by Pfeiffer and Leber in their researches in eye pathology, to different dermatoses, especially impetigo and seborrhœic eczema, and endeavors, by offering this explanation, to reconcile the two different beliefs. Elliot, of New York, entertains somewhat the same views as Unna, but is perhaps more conservative. Bulkley belongs to the first category, and most of the other American dermatologists occupy intermediate ground.

The trend of opinion is toward the theory of parasitic invasion, and the old ideas of dyscrasia and diatheses are giving way to the more simple and rational explanation of many pathological conditions of the skin.

Leprosy in Iceland.

In the report of the Commission sent to investigate this subject by the Danish government, Edvard Ehlers gives a very interesting account of the existence of leprosy in Iceland. He studied, from an historical point of view, the question of the persistence of lepra in a country reputed to be non-leprous, and coincided with Leloir in the opinion that certain leproid affections were the remains of the ancient leprosy which covered Europe in the Middle Ages. According to Olafsen, Povelsen and Hjaltelin, leprosy was known in Iceland from the time of the Crusades, and had probably been imported from Norway about the end of the twelfth century. No exact statistics were taken until the beginning of this century. From 1800 to 1837, Hjaltelin gave the proportion of 19.64. In 1846, the same author put the number at 66. In 1872, there were 43 lepers in the district of Guldþrenge, of whom 36 presented the tubercular

* Unna and Wolff, *St. Louis Medical and Surgical Journal*, July, 1893.

and 7 the anæsthetic form. In 1889, the number of lepers was 48.

Ehlers describes the varieties of leprosy admitted by the older Icelandic physicians, and concludes by saying that the number of lepers is much greater than that contained in the official reports.—*Journal Mal. Cutan. et Syph.*

Cystitis in Children.

Escherich (*Prager Med. Wochenschrift*, 1894, No. 23) describes a form of cystitis, with acid urine, occurring in children. He had seen a number of cases in his clinic, all being female children. The cause of the acid cystitis was probably the *bacterium coli*, which gained entrance into the bladder directly from the colon or per urethram. For treatment, he recommends washing out the bladder with a weak solution of creolin and the internal administration of salol. The latter, in large doses, causes a slight irritation of the kidneys.

Initial Specific Lesion of the Tonsil.

A case of *chancre of the tonsil* has recently occurred in my practice:

A young man, twenty-four years old, was brought to me for diagnosis of a papular eruption of the face and body. The efflorescence proved to be a papulo-squamous syphilide. The patient strenuously denied ever having had a sore on the penis, but said that about two months before he had suffered from an ulcer on the tonsil. The pharynx was congested, the tonsil markedly indurated, and showed the cicatrix of a recent ulcer. The glands beneath the jaw were enlarged.

The mode of infection has remained obscure; the possibility of the young man, who was eminently respectable, having acted as *fellatrix* was not suggested. The diagnosis of chancre of the tonsil was subsequently confirmed by Dr. George Emerson Brewer, of New York, who, I suppose, will report the case in extenso. It is of interest, as the tonsil is an unusual seat of an extra-genital primary lesion of syphilis.

B. W.

Proceedings of Societies, Boards, etc.

MEDICAL SOCIETY OF VIRGINIA.

[We regret that the lack of space compels condensation of report in this number. Some of the important papers, however, appear in this issue, and others will appear in December number.]

The Twenty-fifth Annual Session was called to order by the President, Dr. Wm. P. McGuire, of Winchester, Va., at 8 P. M., Tuesday, October 23rd, in the auditorium of the Young Men's Christian Association, Richmond, Va. After prayer by Bishop Newton, Dr. J. S. Wellford delivered the Address of Welcome.

Dr. R. S. Martin, of Stuart, Va., delivered the "Address to the Public and Profession," announcing as his subject, *Preventive Medicine*. After speaking of the sums spent by the Government in sending people to discover the North pole and other wild goose chases, he stated that it would be far better if like sums of money were appropriated for the prevention of infectious diseases. Among such diseases, he enumerated tuberculosis, small pox, typhoid fever, diphtheria, hydrophobia, etc. There is great need of the appropriation of means to carry out the aims and objects of the State Board of Health, which the State should give, as one-third of the deaths in this great Commonwealth result from preventable diseases.

During the session, about eighty doctors joined the Society.

Nearly three hundred doctors were registered in attendance—the largest attendance ever enjoyed by this Society. Among the distinguished men from outside of the State who contributed by their presence, papers, or discussions to the success of the meeting were: Drs. Joseph Price and Wharton Sinkler, of Philadelphia; R. T. Morris, Robt. D. Tucker, and T. A. Granger, of New York; T. O. Summers, of Waukesha, Wis.; Sam'l Theobald and Howard A. Kelley, of Baltimore, and J. J. Fort, of Ellicott City, Md.; Irving C. Rosse, of Washington, D. C.; R. H. Whitehead, Chapel Hill; J. C. Walton, Reidsville, and H. H. Dodson, of Greensboro, N. C.

Three essays were offered in competition for *Dr. Hunter McGuire's Prize* of \$100 for the best worthy paper on "*Medical and Surgical Aspects of Appendicitis*," which the committee (Drs. Jacob Michaux, of Richmond; Paul B. Barringer

of University of Virginia; and Lewis E. Harvie, of Danville) had carefully examined. The committee was unanimous in awarding the Prize to the essay signed "Vulnere Sano." On opening the corresponding envelope, the Secretary announced that Dr. Edward E. Feild, of Norfolk, Va., was the fortunate one. [Dr. Feild is an ex-President of the Norfolk Medical Society. He was prevented from attendance by reason of the illness of a friend, Dr. Wm. A. Thom, Jr., who died November 1st, 1894.] His *Prize Essay*, however, appears in this November issue, page 7-7.

One essay only was received for the Prize of \$200 (offered conjointly by Drs. Joseph Price, of Philadelphia, and Herbert M. Nash, of Norfolk,) for the best "*History of Surgery and of Surgeons in Virginia*," but the Committee of Examination (Drs. Hugh M. Taylor, of Richmond; Hugh T. Nelson, of Charlottesville, and J. H. Neff, of Harrisonburg,) did not think that essay possessed such merit as to entitle it to the award of the Prize.

After presentation of the well-prepared Report of the Necrological Committee, Dr. John S. Apperson, of Maricon, Chairman, a resolution, presented by Dr. Joseph A. White, of Richmond, was adopted, calling for enforcement of the rules as to the thirty minutes' length of a paper, and limiting the number of times to once that a Fellow may occupy the floor on the same subject.

Dr. John N. Upshur, Richmond, Chairman of the Committee appointed last session *to secure necessary legislation to better regulate the sale of poisons in stores*, other than those of registered pharmacists, reported that he had found no support from the other members of the committee, and that nothing had been accomplished in the way of legislation.

After some discussion, on motion by Dr. Wm. W. Parker, Richmond, a committee of five Fellows was ordered to further agitate the subject until the cause shall be heard by the Legislature of Virginia.

The Executive Committee (Dr. Hunter McGuire, Richmond, Chairman,) reported that only routine duties had been performed, as the occasions arose.

The Recording Secretary's Report (Dr. Landon B. Edwards, Richmond,) was read, chiefly statistical.

Announcements were made of receptions to-morrow night by Dr. Hunter McGuire and Thursday night by the Profession of Richmond and Manchester, in Masonic Temple, etc.; also of operations during the week at the Virginia Hospital, Clay and Eleventh streets, and Medical College of Virginia

Hospitals. Also of the exhibition of Pharmaceutical Preparations, Surgical Instruments, etc., in the special hall engaged for the occasion, under charge of committee of Richmond Pharmacists—Messrs. T. A. Miller, W. P. Poythress, Polk Miller, — Briggs and G. W. Latimer—who had chosen Mr. John W. Pierce as Manager.

Adjourned till 10 A. M. Wednesday, to meet in Chamber of Commerce Hall.

On convening WEDNESDAY MORNING, the following committee was announced, as called for in Dr. Parker's resolution, adopted last night: Drs. Wm. W. Parker and J. N. Upshur, of Richmond; Wm. W. Kirk, of White Stone; R. W. Sanders, of Max Meadows; and Wm. A. Bell, of Winchester.

At 11 o'clock, the special order being the *President's Address*, the President, Dr. Wm. P. McGuire, of Winchester, requested Vice-President Dr. Robt. J. Preston to assume the Chair. He then delivered his excellent *Address*, which is so full of history of the profession of Virginia that we have adopted it as an article in this November issue (see page 711). On motion, thanks for this valuable, well-prepared and well-delivered Address were cordially and unanimously voted.

The *Subject for General Discussion—Appendicitis*—was then taken up. Dr. Wm. L. Robinson of Danville, Leader. (This paper, with items in the discussion, will appear in our December number.)

Adjourned, to meet after dinner in the Hall of the House of Delegates.

At 4 P. M., the Society re-assembled, and the discussion on Appendicitis was renewed and continued until the special hour for *Election of Officers, etc.*, for 1894-'5, which resulted as follows:

President—Dr. Robert J. Preston, Marion, Va.

Vice-Presidents—Drs. Hugh T. Nelson, Charlottesville; C. M. Stiggleman, Floyd C. H., and John Grammar, Houston.

Recording Secretary—Dr. Landon B. Edwards, Richmond.

Corresponding Secretary—Dr. John F. Winn, Richmond.

Treasurer—Dr. Richard T. Styll, Hollins, Roanoke county.

Executive Committee—Drs. Hunter McGuire, Richmond; J. Herbert Claiborne, Petersburg; E. W. Rowe, Orange; M. D. Hoge, Jr., and Thos. J. Moore, Richmond.

Committee on Nominations of Applicants for Fellowship—Drs. Wm. D. Turner, Fergusson's Wharf; Alfred S. Rixey,

Culpeper; G. M. Nickell; Millboro Depot; R. H. Latané, Buchanan; and L. G. Pedigo, Roanoke.

Committee on Publications—Drs. Hugh M. Taylor, J. F. Winn; and M. D. Hoge, Jr.

Necrological Committee—Drs. John S. Apperson, Marion; L. Lankford, Norfolk; T. W. Smith, Bethel Academy; C. V. Robinson, Petersburg; and C. E. Busey, Lynchburg.

Wytheville was selected as the Place for the *Twenty-sixth Annual Session* during the Fall of 1895. Time, as the Executive Committee may decide after consultation with the Local Committee.

To deliver the *Address to the Public and Profession during Twenty-sixth Annual Session, 1895*, Dr. L. G. Pedigo, Roanoke.

Subject for General Discussion during Session 1895, "THE GENERAL PRACTITIONER—HIS DUTY TO THE PROFESSION, TO HIMSELF, AND TO SOCIETY."

Leader in the Discussion—Dr. H. M. Patterson, Staunton.

The Committee, composed of one Fellow from each Congressional District and two from the State at large, for the purpose of nominating, for the Governor's commission, the twelve members of the Medical Examining Board of Virginia, was, on motion, left to the President to announce to-morrow, when the Society re-assembles at 10 A. M.

THURSDAY MORNING. Dr. Wm. L. Robinson, of Danville, Chairman of the Committee of twelve Fellows appointed to select the twelve doctors to be recommended by the Medical Society of Virginia to the Governor of Virginia for commission as composing the *Medical Examining Board of Virginia* for the term of four years, to begin November 1st, 1894, presented the following report, which was unanimously adopted:

From the State at Large—Dr. R. W. Martin, Chatham, Va.; Dr. A. S. Priddy, Keysville, Va.

First Congressional District—Dr. L. S. Foster, Mathews Courthouse, Va.

Second Congressional District—Dr. H. M. Nash, Norfolk, Va.

Third Congressional District—Dr. Ben. Harrison, Richmond, Va.

Fourth Congressional District—Dr. S. W. Budd, Petersburg, Va.

Fifth Congressional District—Dr. R. S. Martin, Stuart, Va.

Sixth Congressional District—Dr. J. W. Dillard, Lynchburg, Va.

Seventh Congressional District—Dr. J. E. Chancellor, Charlottesville, Va.

Eighth Congressional District—Dr. R. M. Slaughter, Fairfax Courthouse, Va.

Ninth Congressional District—Dr. E. T. Brady, Chatham Hill, Va.

Tenth Congressional District—Dr. H. M. Patterson, Staunton, Va.

The Governor of Virginia was officially notified by letter from the Secretary, October 26th, 1894, and commissions were requested to be sent to each of the gentlemen named to compose that portion of the Board of Examiners which is to be represented by the regular profession of Virginia.

Under call for papers, Dr. John W. Dillard, of Lynchburg, Va., read a paper on "*Curettage of the Uterus.*" (See page 724 of this number.)

"*Case of Dislocation of the Hip-joint, with Extra-Capsular Fracture of the Neck of the Femur,*" by Dr. Geo. W. Larrick, of Middletown, Va. (See page 743 of this number.)

The following is a synopsis of a paper intended to have been read, in response to invitation, by Wharton Sinkler, M. D., of Philadelphia, Pa., but he was called home to meet an engagement:

Sporadic Cretinism, and Its Treatment by Thyroid Extract.

It is now a recognized fact that sporadic cretinism is practically the same disease as myxœdema; indeed, the name "congenital myxœdema" may be considered synonymous with "sporadic cretinism." It has been only in the past few years, however, that the two conditions have been discovered to be identical. In that valuable work, *The Report of the Clinical Society of London on Myxœdema*, published in 1888, Dr. Ord says, in the final summary, "that there is strong evidence that myxœdema, sporadic cretinism, endemic cretinism, etc., are several species of one genus."

Barlow has pointed out that many symptoms of rickets are common to sporadic cretinism. and the conclusions of this observer have been borne out by recent writers. The case which I shall report is an illustration of the connection between the two conditions, and it shows the symptoms of rickets, strongly manifested in connection with the marked features of myxœdema.

Up to 1890, cretinism was regarded as an incurable disease and as being susceptible only of slight improvement. In an admirable article by Bury (Keating's *Cyclopædia of the Diseases of Children*), the writer admits the incurability of the disorder, and recommends placing the subjects of it in asylums for feeble-minded children, so that their mental

condition may be developed, and advises treatment of the physical condition by cod liver oil, tonics and fresh air. Within the past few years, however, a number of cases have been recorded, in which the thyroid gland has been administered with remarkable results.

The striking benefit which followed the administration of this substance to persons suffering from myxœdema suggested its use in cretinism. Osler recorded a number of cases of cretinism (*Amer. Jour. of the Med. Sciences*, November, 1893), and I have collected several others, in which the administration of thyroid extract was followed by improvement, not only physically, but mentally. The case which I report shows the good effects of thyroid feeding.

The gland was administered in the form of an extract, and the equivalent of about one-fourth of a sheep's thyroid was given daily. The patient was a child, four years of age, when the treatment was begun. She was $30\frac{1}{2}$ inches in height, weighed $26\frac{1}{2}$ pounds, and had but 12 teeth. The hair was coarse and thin, the face puffy, with thick lips and pendulous cheeks. The skin over the entire body was thick, and lay in transverse folds. The head was unduly large and square, the anterior fontanelle still open, and the epiphyses of the long bones enlarged. The intellect was very dull. After four months treatment, a remarkable change had taken place in the patient. The coarse hair had been replaced with an abundant growth of soft fine hair, the myxœdematous features were greatly lessened, and the child was able to walk with a slight amount of assistance. The intellect had brightened materially. The patient's height is now $32\frac{1}{2}$ inches, and her weight 29 pounds—a gain of 2 inches in height and $2\frac{1}{2}$ pounds in weight in four months.

Too short a time has elapsed since beginning the treatment in these cases to judge of the permanency of results, but enough has been gained to indicate that this plan of treatment is a most valuable addition to the treatment of this disease, which has heretofore been held to be incurable.

The following is a synopsis of the paper presented by Dr. George W. LeCato, of Wachapreague, Accomac Co., Va.:

Some Old Remedies in the Treatment of Diphtheria.

This paper, passing by the discussion of the etiology and pathology of diphtheria, enters a plea for some old remedies, which, in the light of present theories, are in danger of being overlooked.

Referring briefly to the ancient and modern history of

the disease, the writer summarizes the following doctrines :

1. That diphtheria is, primarily, a general disease, with a characteristic local pathology.

2. That it is always an insidious disease, the ultimate gravity of which is in no case to be predicted on the basis of the local symptoms.

After reviewing briefly such remedies as have been commended by the profession generally, the author offers a special formula, which he claims to have used with uniform good for thirty years. After a mild purgative (generally mercurial), the treatment embraces the following prescriptions :

R_x Quiniæ sulphat.....grs. ij-ijj

S. For one adult dose.

R_x Potass. chlorat.....gr. x

Tinct. ferri chlorid.....gtt. xv.

Syrup.....q. s.

Aquæ ad. ʒj

M. S. For one adult dose.

The above prescriptions are to be *regularly and persistently alternated for every hour and a half to two hours, during the day and night, until some amelioration is observed in the symptoms*, when the interval is to be lengthened, the quinia finally withdrawn, and the mixture continued until complete convalescence. Free ventilation of the sick room is insisted upon, the administration of concentrated liquid nourishment and alcohol is needed. Only such local treatment is employed as may be indicated by the demands for cleanliness and disinfection. Under this treatment, the writer has seen, as a rule, the most cases of diphtheria recover. The formula was first tested in a severe epidemic occurring in Accomac Co. in 1864-5, and the writer has continued its use for thirty years.

The pressure upon our space this month compels simply the enumeration of titles of some of the papers, etc., presented during the session, with the promise that some of them will be presented in the December and perhaps subsequent numbers.

Trephining for Epilepsy, by Dr. Boutelle, Hampton, Va.

Psychical Epilepsy, by Dr. Samuel J. Fort, Elliott City, Md.

Hydrophobia, by Dr. Oscar Wiley, Salem, Va.; which was fully discussed.

Nuclein: Its Origin and Function in the Organism (will appear in full in December number), by Dr. T. O. Summers, of Waukesha, Wis.

Cases of Nervous and Mental Malady, by Dr. Irvin C. Rosse, of Washington, D. C.

Suggestions to the General Practitioner upon the Diagnosis and Treatment of Some of the More-Frequently-Met-With Diseases of the Eye, by Dr. Samuel Theobald, of Baltimore, Md.

Glycerine Suppository as a Substitute for the Glycerine Tampon, by Dr. J. T. Graham, of Wytheville, Va.

Typhoid Fever, by Dr. R. I. Hicks, Warrenton, Va.

The President-elect, Dr. Robert J. Preston, of Marion, Va., was installed.

The Retiring President, Dr. William P. McGuire, of Winchester, Va., was elected an Honorary Fellow of the Society.

Dr. James B. McCaw, Richmond, Va., was also elected an Honorary Fellow.

There seeming to be some misunderstanding as to the annual dues of Resident Honorary Fellows, a motion was unanimously carried to the effect that all Honorary Fellows be exempt hereafter from the payment of the usual annual dues.

MEDICAL EXAMINING BOARD OF VIRGINIA.

The Second Semi-Annual Meeting of the Tenth Annual Session of the Medical Examining Board of Virginia (and the final meeting of the Board as now composed of 32 regular practitioners and 5 homœopaths) was held in the Capitol Building, Richmond, Va., October 22nd, 23rd, 24th, and 25th, 1894.

The following members, representative of the regular profession, were in attendance: Drs. Blackford, Broadus, Buckner, Budd, Chancellor, Clarke, Dillard, Foster, Glasgow, Green, Harrison, Hicks, Jones, R. S. Martin, McGuire, Moore, Nash, Palmer, Patterson, Peyton, Pretlow, Priddy, Simmons, Taylor, Winston.

In the absence of the President (Dr. Rawley W. Martin, of Chatham), Dr. J. Edgar Chancellor, of University of Virginia Station, Charlottesville, was called to the chair. Dr. Benj. Harrison, of Richmond city, Secretary and Treasurer, was at his desk. The Monday night meeting, October 22d, after attending to routine work and adopting suitable resolutions in memory of the late member, Dr. James Parrish, of Portsmouth, etc., was mostly engaged in preparing questions for the Examinations of Applicants for License to

Practice Medicine and Surgery in Virginia, etc., the Examinations to begin at 9 A. M. Tuesday, October 23rd.

There were thirty-six applicants for examination, including two ladies and one colored doctor—all of the regular school of practice.

The following are the *Examination Questions for each Section*, which, after full consideration, were adopted :

Examinations held October 23rd and 24th, 1894.

I.—SECTION ON CHEMISTRY.

(Tuesday, 9 A. M. to 12 M.)

Members :—Drs. P. B. Green,* Wytheville, *Chairman*; A. C. Palmer,* Norfolk; Benj. Harrison,* Richmond; T. O. Jones,* Harrisonburg.

Ques. 1. Define atom, molecule, element, chemical compound, symbol, formula, quantivalence, and chemical action.

Ques. 2. Give source, mode of preparation, physical and chemical properties, and uses of phosphorus.

Ques. 3. Explain the process of vinous and acetic fermentation and of putrefaction.

Ques. 4. Give reliable tests of well-water for the albuminoids, chlorides, sulphates and lead, and state what a large amount of chlorine would probably indicate.

Ques. 5. How can the ferrous and ferric salts be distinguished?

Ques. 6. State how hydrogen is prepared. How would you determine that an unknown specimen of gas is H?

II.—SECTION ON ANATOMY.

(12 M. to 3 P. M.)

Members :—Drs. C. M. Blackford,* Lynchburg, *Chairman*; J. B. Moore,* Ayletts; R. D. Huffard, Kelly; Joseph T. Southall,* Jetersville.

Ques. 1. Describe the spine of the scapula.

Ques. 2. Describe the wrist-joint.

Ques. 3. Give origin, insertion, vascular and nervous supply of the gracilis, supinator longus, and latissimus dorsi muscles.

Ques. 4. Describe, and give the relations of the spleen.

Ques. 5. Origin, termination, and muscular relations of the anterior tibial artery.

Ques. 6. Describe the coverings of femoral hernia.

The * after names indicates the Examiners in attendance.

III.—SECTION ON (I.) HYGIENE AND (II.) MEDICAL JURISPRUDENCE.

(4 P. M. to 7 P. M.)

Members :—Drs. J. E. Chancellor,* Charlottesville, *Chairman*; T. W. Simmons,* Martinsville; L. S. Foster,* Mathews C. H.; J. W. Tankard, Burgess Store.

I.—HYGIENE.

Ques. 1. Give the physical properties of fresh cow's milk; its specific gravity, chemical composition, and the care of same to insure healthfulness, and how used as food for infants and invalids.

Ques. 2. Give the sources of drinking water, the impurities liable to occur in the water of wells and reservoirs, how recognized, and how may the water be improved for domestic uses?

Ques. 3. State the hygienic rules governing the arrangement and construction of a modern water-closet with ventilation; also illustrate same by diagram, if desired.

Ques. 4. What measures may be taken to stamp out contagious and infectious diseases found in the home, city, or on board ship.

II.—MEDICAL JURISPRUDENCE.

Ques. 1. Define infanticide, legally; give proof of live birth and the natural and criminal causes of death *before*, *during*, and *after* delivery.

Ques. 2. State in detail the symptoms that would excite suspicion of poisoning by arsenic and by sulphate of morphia; give *post-mortem* appearance in each.

IV.—SECTION ON PHYSIOLOGY.

(8 P. M. to 11 P. M.)

Members :—Drs. Robert Glasgow,* Lexington *Chairman*; R. S. Martin,* Stuart; Wm. L. Broadus,* Bowling Green; C. E. Peyton,* Pulaski City.

Ques. 1. Mention the layers of the plastoderm and structures derived from each.

Ques. 2. Give the mechanism of the heart's action.

Ques. 3. Give the general properties—physical and chemical—of the blood, and state the relative quantity in the human body.

Ques. 4. Give the structure and function of the skin.

Ques. 5. Give a general description of the spinal cord, and mention the special centres located in the same.

Ques. 6. Give the origin, distribution and function of the olfactory nerves.

V.—SECTION ON MATERIA MEDICA AND THERAPEUTICS.

(Wednesday, 9 A. M. to 12 M.)

Members:—Drs. A. Trent Clark,* South Boston, *Chairman*; S. W. Budd,* Petersburg; T. J. Pretlow,* Jerusalem; C. C. Conway, Rapidan; and M. A. Douglass (Homœop.), and C. B. Young (Homœop.).

Ques. 1. Give physiological action of strychnia in its medical and toxic doses; antidotes and antagonists.

Ques. 2. Name three of the best stimulant enemata, with direction for preparation.

Ques. 3. Give physiological action of lead, in acute and chronic poisoning, and treatment of each condition.

Ques. 4. Mention chief mydriatics, with doses.

Ques. 5. Give mode of action of diuretics in circulation of kidney and in secreting cells of the tubes.

Ques. 6. Mention the principal diuretics, and the class to which they belong, and uses.

Ques. 7. Give the common name, nativity, physiological action and dose of colchicum, colocynth, and conium.

Ques. 8. Name the principal medicines which act directly on the uterus, both as stimulant and sedative.

VI.—SECTION ON OBSTETRICS AND GYNÆCOLOGY.

(12 M. to 3 P. M.)

Members:—Drs. Herbert M. Nash,* Norfolk, *Chairman*; H. M. Patterson,* Staunton; B. L. Winston,* Hanover C. H.; G. D. Meriwether, Buena Vista; and Geo. A. Taber, Richmond (Homœop.).

Ques. 1. Name the pelvic viscera of the adult female pelvis, giving their relations and blood supply.

Ques. 2. Define normal and abnormal, natural and unnatural labors, and give the varieties and diagnosis of cephalic, pelvic, and transverse presentation.

Ques. 3. Give the management of a natural labor (occiput anterior), according to the best modern methods.

Ques. 4. What hæmorrhages may occur ante-partum, and the treatment of such hæmorrhages.

Ques. 5. Give the symptoms, diagnosis and treatment of puerperal septicæmia.

Ques. 6. Give the diagnosis and the methods of treatment of pelvic abscess.

VII.—SECTION ON PRACTICE OF MEDICINE.

(4 P. M. to 7 P. M.)

Members.:—Drs. R. I. Hicks,* Warrenton, *Chairman*; T. James Taylor,* Walthall's Store; Rawley W. Martin, Chatham; Bedford Brown, Alexandria; and W. P. Jones (Homœop.).

Ques. 1. Describe the symptoms and treatment of pyelitis.

Ques. 2. Give the differential diagnosis between the symptoms of typhoid and malarial fevers.

Ques. 3. Describe the characteristic symptoms of herpes zoster.

Ques. 4. Describe the principal sequelæ of scarlatina and their treatment.

Ques. 5. Name the various causes of icterus.

Ques. 6. Describe the symptoms and treatment of abscess of the liver.

VIII.—SECTION ON SURGERY.

(8 P. M. to 11 P. M.)

Members.:—Drs. J. W. Dillard,* Lynchburg, *Chairman*; Leigh Buckner,* Roanoke; A. S. Priddy,* Key-ville; Wm. P. McGuire,* Winchester.

Ques. 1. Give the diagnosis and treatment of the various fractures of the skull.

Ques. 2. When would you preferably ligate the common carotid, brachial and femoral arteries?

Ques. 3. Give the varieties of fistulæ in ano, with symptoms and treatment of each.

Ques. 4. Give an improved operation for excision of the knee-joint.

Ques. 5. Give the mechanism of extravasation of urine, with causes and treatment.

Ques. 6. Give the varieties of luxation of the hip-joint.

ALPHABETICALLY ARRANGED LIST OF APPLICANTS FOR EXAMINATION TO WHOM LICENSES WERE GRANTED TO PRACTICE MEDICINE IN VIRGINIA, AFTER DUE EXAMINATION OCTOBER 23D AND 24TH, 1894, WITH THEIR NAMES, POSTOFFICES AND COLLEGES OF GRADUATION IN MEDICINE.

C. M. Athey, Leesburg, Va., University of Maryland.
 A. P. Bowles, Kent's Store, Va., Non-Graduate.
 J. W. Brown, Rochelle, Va., College Phys. and Surg., Baltimore.
 A. S. Crush (Miss), Washington, D. C., Med. Dept., Columbian Univ.
 John Staige Davis, University of Virginia, University of Virginia.
 J. E. Dellinger (Col'd), Greensboro, N. C., Leonard Med. Col.
 J. M. Dougherty, Nickelsville, Va., Kentucky School Medicine.
 J. M. Fenton, Berryville, Va., University of Virginia.
 Lacy Gibson, Staunton, Va., University of Maryland.
 H. S. Hedges, Charlottesvillle, Va., University of Virginia.
 Cheltsey Hopkins (Miss), Staunton, Va., Woman's Med. Col., Phila.
 E. S. Keane, Sago, Va., Louisville Medical College.
 W. W. Luck, University of Virginia, University of Virginia,
 Hugh McGuire, Richmond, Va., Univ. Col. of Med., Richmond.
 Rawley W. Martin, Jr., Chatham, Va., University of Virginia.
 Fred. W. Owen, Claremont, Va., Michigan College of Medicine.
 W. H. Parker, Richmond, Va., Non-Graduate.
 M. G. Robinson, Graham's Forge, Va., Non-Graduate.
 L. W. Shoemaker, Russell Co., Va.; Kentucky School Medicine.
 S. R. Tabb, Richmond, Va., University of Virginia.
 G. T. Thornhill, Glen's Falls, Va., University of Virginia.
 R. D. Tucker, Powhatan, Va., Med. Dept., Columbian Univ.
 W. J. Worthington, Winchester, Va., University of Virginia.
 W. A. Wynhoop, Berryville, Va., University of Maryland.
 W. O. McCabe,* Davis Mills, Va., Univ. Col. of Med., Richmond.

* By an error, this name was omitted from the list of Licentiates last spring—Certificate having been given him, based on that examination.

Officers Elect of the Medical and Surgical Society of District of Columbia.

On October 8th, 1894, the Annual election of officers, etc., resulted as follows:—*President*—Dr. I. S. Stone; *Vice-President*—Dr. C. Mayfield; *Secretary and Treasurer*—Dr. L. Eliot; *Executive Council*—Drs. L. Eliot, J. W. Boveé, F. B. Bishop, J. T. Moran, T. N. Vincent; *Honorary Membership*—Dr. W. Goodell, Philadelphia, Pa., Drs. S. C. Busey, R. Reyburn, J. W. H. Lovejoy and W. W. Johnston of Washington, D. C.

Messrs Wm. Warner & Co. of Philadelphia, Pa.,

Have been awarded the "Grand Prize" for the purity and excellence of their preparations during the recent Antwerp Exposition.

Book Notices.

Manual of the Universal Medical Sciences. Edited by CHARLES E. SAJOUS, M. D. SEVENTY ASSOCIATE EDITORS. *Illustrated with Chromo-Lithographs, Engravings and Maps.* In Five Volumes, 1894. The F. A. Davis Co., Publishers, Philadelphia, New York, Chicago. London, F. J. Rebman. Cloth. 8vo. About 500 or more pages each volumn. Price \$15 net for the Five Volumes.

The recognized value of this "*Annual*" is becoming almost as general as is the necessity for the doctor to have at hand some one of the authoritative Medical dictionaries. It would be better for the practitioner to do without his city daily or county weekly newspaper, than for him to do without a regular subscription to this wonderfully excellent *Annual* review "of the Universal Medical Sciences." About 275 well selected doctors are annually at work reviewing all journal articles and books, and compiling therefrom a statement of what is seen or read—each Assistant or Associate looking for advances only in his special department. Great care has been taken in this 1894 issue to verify all references and print them accurately. Indeed, the proof reading and typography are both excellent. The Index seems to be quite perfect. The general character of the work is so well understood that we scarcely think it necessary to go into any detailed description. Diseases of different parts are discussed under one heading or *Section*. Thus Vol. I opens with Section A., which is taken up with Diseases of the Lungs and Pleura; Section A. of Vol. II considers Diseases of the Brain, etc. As many pages are given to each Section as the necessity of the case requires.

Manual of the Practice of Medicine. Prepared Especially for Students. By A. A. Stevens. A. M., M. D., Lecturer on Terminology and Instructor in Physical Diagnosis, University of Pennsylvania; Demonstrator of Pathology, Woman's Medical College, etc. *Third Edition—Revised.* Illustrated. Philadelphia: W. B. Saunders 1894. Cloth. Small 8vo. Pp. 501. \$2.50.

The opportunity given the author to revise some important modifications by the demand for a third edition has been taken advantage of; but no material additions have been made to the edition of 1892. The "*Manual*," as issued is well arranged, and all the sections are written clearly and well. We often adopt it for epitomized information, and have learned to depend upon the accuracy of the teachings. Whoever wants a hand-book on medicine can go much further and find no better than this "*Manual*."

Manual of Hygiene. By MARY TAYLOR BISSELL, M. D., Professor of Hygiene in Woman's Medical College of the New York Infirmary for Women and Children. New York. The Baker & Taylor Co. 8vo Pp. 338. From Publishers.

This "Manual" has been prepared rather for the student than the practitioner. And yet there is not a lesson taught in it that would not be valuable for the graduate. It covers in a text book style all the usual lessons taught in the books on hygiene that have become established facts. Debatable points are not discussed. It is just such a book as those schools and colleges not necessarily medical which have chairs of hygiene, etc., ought to adopt as their text book. There is nothing in this book which is not easily understood—even by the layman—and its adoption would do incalculable good. It has none of the nonsensical absurdities of fanatic prohibition in it. Its doctrine is temperance, cleanliness, sanitation and nothing but good results can come of its adoption in the school-room or family.

Materia Medica, Pharmacy, Pharmacology and Therapeutics.

By W. HALE WHITE, M. D., F. R. C. P., Physician to, and Lecturer on Materia Medica and Therapeutics at Guy's Hospital, London, etc. Edited by REYNOLD W. WILCOX, M. A., M. D., LL.D., Professor of Clinical Medicine and Therapeutics, N. Y. Post-Graduate Medical School and Hospital, etc. *Second American Edition. Thoroughly Revised.* Philadelphia: P. Blakiston, Son & Co., 1894. Small 8vo. Pp. 661. Cloth. \$3. (For sale by J. W. Randolph & Co., Richmond.)

This is a good work. The first 120 pages are devoted to definitions and classifications of drugs, etc. It is written as concisely as possible, is adapted to the recent issue of the U. S. Pharmacopœia, etc., and describes the preparations of a number of drugs, etc., not mentioned in the official works. Nothing seems to have been taken from or credited to Cerna's *Notes on the Newer Remedies*, and several other like standard works, and yet many things are said that are based altogether on the ripe experience of the author or editor. While it may appear that there is an overabundance of text-books on Materia Medica and Therapeutics, it cannot be denied that in no field of the medical sciences is there greater need for the presentation of experiences and observations in order that facts may be brought out conspicuously beyond assertion. Both the author and the editor have the wonderful power of imparting instruction strikingly, so that it sticks to memory, so as to be made availa-

ble at the bedside. We find this edition freed from the errors said to have crept in the first English edition, so that the book as now issued by the American publishers, is a better one than the English, and will make a first-class text-book for the practitioner or student.

Diseases of the Skin; An Outline of the Principles and Practice of Dermatology. By MALCOLM MORRIS, F. R. C. S., Surgeon to the Skin Department, St. Mary's Hospital, London, etc. *With 19 Chromo-lithographic Figures and 17 Engravings.* 12mo. 572 pages. Cloth, \$3.50. Philadelphia: Lea Brothers & Co. 1894.

This work is an entirely new one, by an author whose other contributions have given him eminent reputation in this as in the old country. Its scope is essentially clinical and practical, and includes the most recent advances—having even a chapter on bacteriology of skin diseases, written up to date. The chromo-lithographic illustrations are arranged so as to represent the essential diagnostic features of diseases possessing oftentimes a similarity of appearance to the eye. In short, this is an excellent text-book for students and practitioners, as the prescriptions are concise and clear, the classification easy and natural, and the details of symptoms, causation, diagnosis, prognosis, and treatment are clearly given.

Practical Urinalysis and Urinary Diagnosis. A Manual for the Use of Physicians, Surgeons, and Students. By CHAS. W. PURDY, M. D., Queen's University F. R. C. P. and S., Kingston; Professor of Urology and Urinary Diagnosis, Chicago Post-Graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kidneys;" also of "Diabetes: Its Causes, Symptoms, and Treatment." With Numerous Illustrations, including Photo-Engravings and Colored Plates. Crown 8vo. 360 pages. Extra Cloth, \$2.50 net. Philadelphia: The F. A. Davis Co. 1894.

This work meets our idea as to what a book should be that treats of "practical urinalysis and urinary diagnosis." Part I—including 228 pages—is devoted to *practical* urinalysis. After the Section of "General Considerations," describing the composition of normal urine, and the methods adopted in analysis, subsequent Sections treat of the composition of normal urine, and then of proteids, of carbohydrates, and other forms of abnormal urine. The Sections on urinary and on anatomical sediments—especially the latter—are of great value to the clinician. Of course gravel

and calculus are given a full chapter. But it is Part II that gives the work its greatest value to the practitioner. It treats of "urinary diagnosis"—about 80 pages being taken up with diseases of the urinary organs and urinary disorders. A Section of some 20 pages describes the urine in other diseases, such as the acute infectious diseases; diseases of the liver; articular diseases; diseases of the nervous system, of the respiratory organs, of the digestive system, etc. The Appendix of 18 pages on "examination of urine for life insurance," simplifies the methods to be adopted very much. This is the book for the practitioner, the insurance examiner, and the medical student—as far as urinalysis and urinary diagnosis are concerned. The plates and illustrations are all good, and well selected.

Hand-Book of Medical Microscopy—*Including Chapters on Bacteriology, Neoplasms, and Urinary Examinations.* By JAMES E. REEVES, M. D., Member Association of American Physicians, etc. *With a Glossary, and Numerous Illustrations* (Partly in Colors). Philadelphia: P. Blakiston, Son & Co., 1894. Small 8vo. Pp. 237. Cloth. \$2.50. (For sale by J. W. Randolph & Co., Richmond.)

The author, from the standpoint of the *practitioner*, presents this book for students and practitioners, dealing exactly with those points which instruct and entertain, and which give the microscopical help so often wanted for clinical purposes. The importance of the microscope in medicine and surgery is so strongly presented that he who has no information about its uses, and yet undertakes to diagnose disease—if he allows his moral nature to take control of his selfish nature—feels that he should at once better qualify himself by prompt and close study of the subject. The illustrations of the bacteria of certain diseases are well drawn, often in colors, and for the most part descriptions as to how to secure and prepare the specimens are well given. We have not the space to even mention the titles of the eighteen chapters. But our opinion can be summed up in the sentence that this book is well timed, the facts stated have all the value of authoritative publication, the subjects selected are precisely those that the practitioner wants to know about, and the manner of description is such that the merest tyro can appreciate and fully understand. Get it, is our advice to every practitioner, and learn from it the possibilities of the microscope in medicine.

Essentials of Practice of Pharmacy. *Second Edition, Revised.*

By LUCIUS E. SAYRE, Ph. G., Professor of Pharmacy and Materia Medica, School of Pharmacy of University of Kansas, etc. Philadelphia: W. B. Saunders. 1894. Crown 8vo. Pp. 300. Cloth, \$1.00.

This is a second edition of No. 18 of "Saunders' Question Compends," revised so as to correspond with the U. S. Pharmacopœia, 1890. Among the numerous additions to meet the practical needs of the student in such a work are: Outline of Drug and Plant Analysis, Structural Formulæ of Organic Carbon Compounds Used in Medicine, Pharmaceutical Testing of Organic Chemicals, Problems in Allegation and Specific Gravity, etc. We have so often expressed our approval of these "Essentials" for the students' guide in these days of intense activity, that we need add nothing to the old proverb quoted in the preface—

"Get what you can, and what you get, hold;
'Tis the stone that will turn your lead into gold."

Syllabus of Lectures on Human Embryology. An Introduction to the Study of Obstetrics and Gynæcology. *For Medical Students and Practitioners. With a Glossary of Embryological Terms.*

By WALTER PORTER MANTON, M. D., Professor of Clinical Gynæcology and Lecturer on Obstetrics in the Detroit College of Medicine; Fellow of the Royal Microscopical Society, of the British Zoological Society, American Microscopical Society, etc., etc. *Illustrated with 70 Outline Drawings and Photo-Engravings.* 12mo. Cloth. 126 pages,, interleaved for adding notes and other illustrations, \$1.25 net. Philadelphia: The F. A. Davis Co. 1894.

Whether for the obstetric class, or the anatomical, or the physiological, as it presents itself in most colleges, this book is very useful. It makes no pretension to originality, but the general arrangement is such as the author has found best in his lectures. After an Introduction, there are eight Sections, respectively, on the anatomy of the female organs of generation, the spermatozoon: spermatogenesis—the ovum, oögenesis, menstruation; general development of the embryo; uterine and foetal membranes, the placenta, utero-placental circulation; development of special organs and parts—the heart, blood-vessels, and blood. Then come chapters on the child at birth, changes in the maternal organism incident to pregnancy, and then comes a chapter on practical work, relating mostly to such questions as incubation, etc. It is remarkable how much of valuable information is incidentally given in a book such as this. The in-

terleaved blank pages are useful for lecture-room or laboratory notes. The illustrations are good. A review of such a work in our space is impracticable; it has our commendation as a guide-book for students, lecturers, and practitioners.

Essentials of Disease of the Skin, including the Syphilodermata. By HENRY W. STELWAGON, M. D., Ph. D., Clinical Professor of Dermatology in Jefferson Medical College, etc. *Third Edition, Revised and Enlarged. With 71 Letter Press Cuts and 15 Half-Tone Illustrations.* Philadelphia. W. B. Saunders, 1894. Cloth. Small 8vo. Pp. 270. \$1 net.

"Saunders Question Compends" have taken a firm hold upon professional favor, and by students are well considered "essentials." This 3rd edition of "No 11" is well revised, and the 15 half-tone illustrations introduced for the first time give the book a higher claim upon our approval than it ever had. We can scarcely see how any book with such an aim can be an improvement upon this in the present stage of dermatology. The book is handsomely issued.

The Pocket Anatomist. By C. HENRI LEONARD, A. M., M. D., Prof. of Gynæcology Detroit College of Medicine. Leather, 300 pages, 193 Illustrations, postpaid \$1.00. The Illustrated Medical Journal Co., Publishers, Detroit, Mich.

The 18th edition of this popular anatomy is now before us; it is printed upon thin paper and bound in flexible leather so as to be specially handy for the pocket. The illustrations are photo-engraved from the English edition of Gray's Anatomy; so are exact as to their details. Three large editions have been sold in England, testifying to its popularity there, and some sixteen thousand copies have been sold in this country. It briefly describes each artery, vein, nerve, muscle and bone, besides the several special organs of the body. It contains more illustrations than any of the other small anatomies.

Manual of Modern Surgery—General and Operative. By JOHN CHALMERS DA COSTA, M. D., Demonstrator of Surgery, Jefferson Medical College, etc. *With 188 Illustrations in the Text, and 13 Full-page Plates in Colors and Tints, Aggregating 276 Separate Figures.* Philadelphia. W. B. Saunders, 1894. Small 8vo. Pp. 809. Cloth. \$2.50 net.

This is one of the "New Aid Series of Manuals for Stu-

dents and Practitioners" recently begun publication by the well known Publisher of "Question Compends." It is ably written by a well known author and practitioner; so that it has to take a first rank with the best of such books. The author attempts nothing more than he has accomplished—the presentation of the *fundamental principles*, the chief operations, and the accepted methods of modern Surgery. As the midway "Manual" between the cumbrous exhaustive treatise and the incomplete but concentrated compend, there is no book of the kind in this country that serves the purpose better. The plates and figures are all excellent.

Text-Book of Hygiene. A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint. By GEORGE H. ROHÉ, M. D., Professor of Therapeutics, Hygiene, and Mental Diseases, College of Physicians and Surgeons, Baltimore; Superintendent Maryland Hospital for the Insane; Member American Public Health Association; Foreign Associate of Société Française d'Hygiène, etc. *Third Edition, Thoroughly Revised and Largely Rewritten*, with Many Illustrations and Valuable Tables. Royal 8vo. 553 pages. Cloth, \$3 net. Philadelphia; The F. A. Davis Co., Publishers. 1894.

This important text-book improves with the issue of each edition. It is a systematic arrangement of solid facts pertaining to hygiene which should be studied by every doctor before he attempts to tell patients what they should do. In all that pertains to diseases, etc., the work reads like well-told history; and there is not a page in the book that does not give lucidly a valuable lesson for doctor, architect, engineer, etc. As a text-book, a great improvement has been added to this edition by the useful analytical set of questions appended to each chapter. For the systematic reader, these questions serve his purpose as a summary of the chapter; while the student may well adopt them to point out those essentials or facts which he should know—especially on examination day. Whether or not the cordon detention of *individuals* within infected districts, beyond simply the period necessary to disinfect themselves and their clothing, etc.—since even "persons sick with the disease (yellow fever) do not communicate it"—is right, seems debatable, and is being very strongly argued in the negative by Dr. Le Hardy in a series of articles now being published in this journal. *Audi alteram partem.*

Editorial.

Medical Society of Virginia.

The 25th Annual Session held in October, 1894, in Richmond, was a grand success. The attendance was nearly 300. The number of papers was relatively small, but the discussions were excellent—practical Clinics were held at the University College of Medicine by Dr. Joseph Price, Hunter McGuire, Joseph A. White, etc., and at the Medical College of Virginia by Drs. Howard A. Kelley, Geo. Ben. Johnston, Chas. M. Shields, etc. Dr. Wm. L. Robinson, of Danville, Va., as leader of the discussion on Appendicitis showed himself a master of the situation. We hope to give a full account of this discussion and others in our December number. In fact, so great is the pressure upon our space in this number that we are compelled to defer until the next issue the publication of much of the manuscript already prepared. The "Address by the President," Dr. Wm. P. McGuire, of Winchester, Va., is of so great value that we have published it entire. His able administration is proven by the grand success of the session. Dr. Robert J. Preston, Superintendent of the Southwestern Virginia Hospital for the Insane, at Marion, Va., is President-elect for the year 1894-5, and knowing his popularity and ability, it is safe to predict that the fruits of the session to be held in Wytheville, Va., next year will be an ample reward for his unanimous election. Our space is too limited in which to say what we had desired to say; so that fuller editorial notes will be made in our December number. For the present, we have to refer the reader to the condensed report of the proceedings of the session, page —.

The Advertisements of Polk Miller & Co. and of Swineford's Lithia Springs Water

Were received too late for Indexing, but they will be found on extra pages institched between advertising pages 50 and 51.

Maltine with Coca-Wine

Is being used by Dr. Henry C. Coe with most satisfactory results in his service at the New York Cancer Hospital, of which he is attending Gynæcologist, in patients during the convalescence after abdominal section.

New Departments.

We are sure that we please subscribers in adding the two departments of General Surgery, conducted by Prof. Stuart McGuire, M. D. of Richmond, and of Skin, Venereal and Genito-Urinary Diseases, conducted by Dr. Bernard Wolff, of the Southern Medical College in Atlanta. These Departments, with that so ably conducted by Prof. John Dunn, M. D., of Richmond, on Diseases of the Eye, Ear, Throat and Nose, make this journal specially useful to all classes of practitioners. Authors of papers in other journals or reprints relating to subjects coming under the head of either of these Departments would do well to send copies to the gentleman conducting the Department to which his subject naturally belongs.

Dr. Robt. Chilton Atkinson, St. Louis, Mo ,

Received 173 out of 203 votes for City Coroner. This nomination was declared unanimous. He is professor of Practice of Medicine and of Therapeutics in the Marion Sims Medical College of St. Louis. He is from Smithfield, Isle of Wight county, Va., is the youngest son of the late Hon. Archie Atkinson of the second district of Virginia in Congress. Dr. Atkinson entered the Confederate service as "high private" in the Prince George Cavalry, (13th Va. Cavalry); afterwards he joined Jeb. Stuart. Horse Artillery. He is a brother of Dr. Archie Atkinson who now resides in Baltimore and who was Professor of Practice of Medicine in Baltimore Medical College and Specialist in diseases of the Stomach and Bowels.

A Clinical Manual of Diseases of the Eye,

Including a Sketch of its Anatomy, by D. B. St. John Rossa, M. D., LL. D., is announced as about ready for issue by Messrs William Wood & Co., Medical Publishers, New York. The volume has about 650 octavo pages. Extra Muslin binding \$5.50. Sheep \$6.50.

Cape Charles (Va.) Quarantine Station.

Inspection of vessels arriving at this Station from November 1st to May 1st will be entirely discontinued, but this Station will be kept in readiness to receive any infected vessel which may be remanded to that Station for disinfection and the treatment of the sick.

Dr. A. H. Buckmaster, of New York, N. Y.,

Has been selected by the Committee, appointed to nominate a successor of the lamented Dr. Dabney, as Professor of Practice of Medicine, Obstetrics and Gynæcology in the University of Virginia. He is well known in the gynæcological world as editor of the *New York Journal of Gynæcology and Obstetrics*. We congratulate our brother of the quill in the distinction he receives as being the successor of one so distinguished as a teacher as was Dr. Dabney.

Kentucky School of Medicine.

"At the meeting of the Association of American Medical Colleges held in San Francisco on June 7th, 1894, the Kentucky School of Medicine, of Louisville, Ky., was dropped from membership in the association."—*Ex.*

In view of the great injustice done by the "*Exchange*" in which the above clipping occurs, we take pleasure in giving publicity to the following from the *Louisville Medical Monthly*, October 1894. "Dr. Wathen, the Dean of the Kentucky School of Medicine, denies, emphatically, that his school was ever a member of the Association of American Medical Colleges. It is a member of the Southern Association in good standing, and no school in this country is more strict in its requirements, nor possesses a higher standard of excellence. The Kentucky School of Medicine is one of the oldest and best known institutions in the South, and its requirements, both for matriculation and graduation, are higher than those of either the Southern or American Associations. The Faculty has just completed a large hospital annex, and the clinical advantages the coming season will be equal to any, and superior to most other colleges."

Yale Medical Journal

Is very cheerfully added to our exchange list. It is handsome in appearance, clear in type and press work, and especially in the material which is published. Its editors start in as if trained to their tasks, although stated to be students of the Yale Medical College. It is a \$2. octavo monthly of 48 pages, published in New Haven, Conn.

VIRGINIA MEDICAL MONTHLY.

VOLUME XXI—No. 9.

WHOLE NUMBER, 249.

RICHMOND, DECEMBER, 1894.

Original Communications.

ART. I.—Nuclein—Its Origin and Function in the Organism.*

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Ever since the acceptance of the cell doctrine as the physical basis of all vital action, the relation between the morphological character of the individual cell of every variety of structure and the fibre developed by its proliferation has been the crucial question of physiology. When Schwann first announced the essential character of a cell, he supposed that in all cases it was necessary to have a distinct cell-wall enclosing a blastema, floating in which was the nucleus, and within that the nucleolus. It did not take long, however, for investigators to discover the very important physiological fact that a cell-wall was not necessary to the integral function of cellulation, that granular blastema gathered about a nucleus, and nucleolus was not only a possible, but in fact, a constant condition in the ultimate morphological analysis. So that every physiologist now recognizes the nucleus and nucleolus as essential, active elements, and the

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granular blastema by which it is environed, as the material which the nucleus and nucleolus determine into tissue; nevertheless, this granular blastema has imparted to it a molecular force, by which it becomes an active agent in assimilation, even when separated from the nuclei.

Recent investigations have established beyond question the fact that this granular substance is the product of the multinuclear, white blood corpuscles, and that the individual cell of any tissue gathers it to itself for the purpose of converting it into the tissue, of which the cell is the representative vital unit. We have, therefore, *necessary to all tissue formation*—*First*, the white blood corpuscles, which produce a granular substance, containing all the elements of nutrition common to all tissue; and *Secondly*, the individual cell of each tissue, whose nucleus and nucleolus differentiate from this common nutritive product of the white blood corpuscles that material necessary for the nutrition of the tissue to which the cell belongs, and passing the residue on into the general circulation, to be appropriated by the cells of other tissues, which possess for it assimilable affinity.

To this general product of the multinuclear white blood corpuscles, the name, *nuclein* has been given by recent investigators, both from the fact that it is the direct result of the action of the nuclei of the leucocyte, and also because of the affinity which exists between this ultimate nutritive substance and the nuclear assimilability of the individual tissue cells. In this nuclein, then, we have that material which physiologists have indefinitely described under various names—protoplasm, bioplasm, etc. The term nuclein is a peculiarly appropriate one, in that it represents both the origin and the physiological destiny of the product.

That it is the physical basis of all vital action can no longer be questioned; for not only do we find it ever present about the ultimate tissue cell, in a state of constant molecular vibration, but it has been demonstrated that whenever there is any abnormal stimulus or irritation of any part of the organism, or whenever any toxic disease germs are introduced into the organism, there is a pouring out of this substance,

nuclein, from the white blood corpuscles, throwing, as it were, a protective wall about every tissue cell that is attacked, and thus arresting pathological progress in the tissues.

Now, in order to come to a clear understanding of the manner in which nuclein is developed in the organism, and the function it is destined to perform, let us note the fact, that the proteids in the circulation furnish the white blood corpuscles with the material out of which nuclein is made. The whole physiological process of the animal organism seems to be made up of a system of alternate unification, or rather integration and differentiation of nutritive material, the white blood corpuscle integrating nutritive matter that has been passed through the digestive process into the blood, into the one common granular blastema, protoplasm, bioplasm, ultimate cell material, or whatever term may be chosen to represent that aggregation of vital units now recognized as nuclein. This is the integrating process, and is performed by the multinuclear white blood corpuscles.

Now, the process of differentiation is performed by the individual cells of the various tissues, and this differentiation consists in eliminating from the nuclein that peculiar character of material adapted to the development of the tissue of which the cell is the representative unit, and rejecting what is not so adapted, turning it again over to the general circulation to find its ultimate destiny in some other part of the animal economy.

Strange as it may seem, with our present knowledge of cell structure and cell function, there is perhaps no subject about which so much vagueness hangs as is to be found enveloping the question of the essential morphological conditions of cellulation. It is so often the case that even among scientific men distinctly differing functions are spoken of synonymously, thus rendering the *nomenclature*, at least, of histology dangerously misleading. For example, we read from one investigator that nuclein is the product of the multinuclear white blood corpuscles, and then further on we are told that one of the most important functions of nuclein in

the animal economy is the increase of white blood corpuscles. Now, to a beginner in histology, and as a matter of fact, for even scientific "children of a larger growth," this looks somewhat like reasoning in a circle, and is calculated to confuse the mind as to the exact functional relation of nuclein to the organism. It is well to have this point cleared up at once.

All observers are agreed that the leucocyte is the very first factor in the problem of assimilation. Just as soon as the nutritive materials have been delivered to the circulation, the leucocyte takes hold of them, and by active dialytic action reduces them to molecular condition, represented by the granular material of the cell body of blastema. In fact, the leucocyte being the anatomical unit of the body, is also the physiological unit, from which proceed by subsequent differentiation the various functions, which together make up the economy of the whole organism. Its own vitality is sustained by the very process through which all other tissues are nourished, and it is to be remarked that, in the act of evolving this nutritive material, there is a very rapid expansion of the nucleus and the nucleolus. This goes on so rapidly that when these multinuclear corpuscles reach certain parts of the organism, the nuclein, surrounded with this granular matter, in a constant state of molecular vibration, break off from the nutrition, swollen cell, forming new leucocytes and setting free this material now reduced to a condition which makes it possible for the cells of the various tissues to appropriate from it only that character of nutritive matter necessary for its own sustenance, leaving the residue to be gathered up by other cells in a like manner. This common substance, therefore, which exudes in the process of leucocytosis is nuclein, and contains in it, or should contain, if no pathological conditions are present, the elementary constituency of the whole organism, reduced to a granular condition, and so arranged molecularly that any individual tissue cell can gather from it those structural elements necessary to its development.

It is easy enough, then, to see how the nuclein may be formed by the leucocyte, and then in its turn establish leucocytosis; so that when it is said that multinuclear leucocytes produce nuclein, and that nuclein causes an increase of the white blood corpuscles, it is only a paradox—not a contradiction in terms—a paradox indeed, the elucidation of which explains the whole cellular process of assimilation. This may seem elementary to some minds, but if we are to judge from the journalistic medical literature of the day, a little elementary knowledge thrown into even the discussion of higher physiological problems will not go amiss.

Robin, in striking a definition of the cell body or protoplasm in a general manner, refers to it as a substance resulting from the elaboration of nutritive material, furnished to the anatomical elements by the blood.

Of course, this throws no light whatever upon the nature of such elaboration, but it is sufficiently comprehensive to prevent any one from falling into the error of supposing that nuclein can be produced in any other manner than by the process of cellulation. In the separation of free nuclein various methods have been proposed, most of them seemingly based upon the idea that certain organs of the body have a distinctive power of producing nuclein. It was, therefore, supposed that these structures would contain more nuclein than any other in the body.

Uskow has very significantly directed attention to the fact that, while it is true that scrapings from the spleen and bone marrow have shown these multinuclear leucotypes—the generators of nuclein in considerable number—when these tissues were fixed and sectioned, these cells were found only in the blood vessels and not in the tissues.

Dr. Aulde, with whom I conversed at length upon this subject, declares it highly probable that many multinuclear cells (colorless) of bone marrow, are not the white corpuscles of the blood.

Carried out to the last analysis, it would seem that all leucocytes originate as mononuclear cells, and are morphologically differentiated at different periods of their late his-

tory. Keeping before us continually the exact relationship existing between the multinuclear leucocyte and its product, nuclein, it is easy to understand how the tissues of such organs as the spleen, thyroid and thymus glands of the body, with such a close net-work of trabecular structure, would be favorable to the proliferation of cells through the separation of the several nuclei, surcharged with nutritive material as they are, and, like ripe fruit, ready to drop from the parent stem.

I can conceive of nothing within the whole realm of physiological investigation which seems so pregnant of practical results as the establishment of this one fact—the existence in the organism of a *cellulized pabulum*, such as nuclein is now demonstrated to be. While I have endeavored in this paper to give a simple, clear explanation of its nature and origin, there are others, such as Aulde, of Philadelphia, and Vaughan, of Ann Arbor, whose brilliant, practical results have given a therapeutic position occupied by nothing else within the reach of modern pathological research. Its vivifying effect upon the sluggish organism, its enlivening influence upon the nerve system, when the wheels of life move languidly and lazily, can only be appreciated by a personal experience.

At present, there are but few preparations at the command of therapists. These are now obtained almost exclusively from the thyroid and thymus glands, in the meshes of which it becomes entangled, so that it may be separated without functional loss.

There is a preparation in the market, which also contains nuclein in a free state, along with the digestive ferments. I refer to the preparation called *Peptenzyme*, which is none other than an extract of the digestive ferments from the stomach, liver, pancreas, spleen, salivary, and Brunner's glands, and Lieberkuhn's follicles. These several ferments were removed by a process which retained the free nuclein, although this was not the object of those who first put up the preparation, which was devised to contain all the differ-

ent digestive agents. The discovery of the presence of free nuclein in this combination came afterwards, but is certainly to be found there in an active state. Not only, however, does nuclein produce, by its free administration, an increase of functional activity in the organism, but it possesses also another very important function—that of direct antagonism to all pathogenic germs.

We all remember the old saws of our professional school days, among which there is none so firmly fixed in our memory as the "*Ubi irritatio, ibi fluxus.*" As often as we have heard this formula, as often as we have used it ourselves, not until the establishment of the functional relations of nuclein to the organism did we learn the full significance of its meaning.

Let us look for a moment at the *beginning of the simplest local inflammation*. The moment irritation is established, there is a pouring out of this nuclein all around the point attacked. Leucocyte after leucocyte rushes in to support the threatened tissue. If the nuclein which is poured out is sufficient to repair the retrograde metamorphosis which has taken place, then the inflammation subsides and the *debris* is carried away and all is well. If, however, the inflammatory condition is produced by the introduction into the organism of a distinctive diseased germ, we see the battle of life in earnest. That wonderful property of the multinuclear leucocyte which it enjoys of taking up disease germs, and disintegrating them, is the great protective principle of the organism. *Whatever, therefore, is capable of exciting leucocytosis, to that extent is antitoxine.* The whole principle of the antitoxine treatment of diphtheria especially, as well as many other zymotic diseases, is founded upon this phagocytic property of the white blood corpuscles. And not only is the progress of the disease thus arrested in the organism, but the nuclein itself, while it stimulates the development of nuclei into corpuscles by being poured out between the tissues and the invading germ, it forms a wall of investment which it requires a powerful toxic agent to scale or to destroy. It has been demonstrated beyond question, that

the administration of free nuclein in these zymotic diseases will often arrest their progress; it always modifies their effect and limits their destructive power.

Until the attention of physiologists was drawn to the inter-functional relations between nuclein and the white blood corpuscles, the rapid or abnormal increase of the latter was deemed a pathological condition. Indeed, it was classified as a distinct disease, under the well-known name of *leucocythemia*, a sesquipedalian dust, under which much learned ignorance has disappeared.

When Vierordt gave us the microscopic method of determining the numerical relation of the white to the red corpuscles, the sole object in view was the reduction of the number of white, and increase of the red, in those cachectic diseases, such as tuberculosis, scrofula, syphilis, in which there is an abnormal increase of white blood corpuscles, which was in itself regarded as the pathology of the disease. It was the old *post hoc propter hoc* course of reasoning, which has proved ever so disastrous to all true scientific methods. True it is, that whenever disease becomes apparent in the organism, there is an increased leucocytosis; but this leucocytosis is not a part of the pathological process—it is a physiological protective process; and the more virulent and destructive the disease, the greater the demand for an increased leucocytosis to combat it, for this is the end of leucocytosis, —the resistance to and destruction of pathogenic germs in the organism.

But the practitioner may ask, in support of the old idea under which he gave his remedies, very often with benefit, and sometimes with absolute success: If this is so, why is it that those remedies which act by lowering the proportion of the white corpuscles to the red invariably tend to the improvement of the patient? This paradox is easily explained. Just as in astronomy, the ancients who believed the sun moved around the earth arrived mathematically at exactly the same results as under the Copernican system, when calculating eclipses; so would the same result in physiology be reached under the conditions before us, for these reme-

dies diminish the proportion of white to red corpuscles, not by destroying the white, but by increasing the red. Whereas in health, the proportion of white to red is 1 to 671, in these so-called leucocythemic diseases, the proportion of white to red is 1 to 300, or even as low as 200. It is the death of the red corpuscles—not the increment of the white—in which lies the pathological condition; and those agents whose concomitant increment in disease led us to believe that they are dangerous elements, by the light of more thorough investigation, are proved to be physiology's army of defence.

Knowing this, as we do, that nuclein is essentially an antitoxine as well as a tissue-builder, it is clear that a more intimate experience with its therapeutic action will eventually substitute its use for the revolting methods of inoculation with disease cultures now attracting the attention of modern therapists throughout the world. So great are the possibilities of such an agent, that it would be impossible to limit its application to pathological conditions. The question of greatest importance to us at present, is the proper separation of nuclein so as to preserve intact all of its functional activity.

Nuclein, as separated from the organism, is represented by the chemical symbol $C_{29}H_{49}N_9P_3O_{22}$. It is colorless, amorphous, slightly soluble in water, readily soluble in alkaline solutions. Its degree of solubility alters upon keeping. A caustic potash solution is first neutralized by it and then rendered acid. It has a xanthoproteic re-action. It precipitates with zinc chloride, nitrate of silver, and cupric sulphate.

It is strongly resistant to the action of pepsin. It may be obtained from the granular residue, consisting chiefly of nuclei, which occurs after digesting pus with pepsin.

Its large percentage of phosphorus is remarkable. This phosphorus separates on boiling with hydrochloric acid, or in caustic alkali. Phosphorus also separates when nuclein is acidulated and allowed to stand.

Nuclein was discovered by Miescher in the nuclei of pus corpuscles and in the yellow corpuscles of the yolk of egg.

Other observers have separated it from yeast, semen, the red corpuscles of birds and amphibia, and from the hepatic cells. It is probably present in all nuclei.

Dr. Aulde has confined himself to the thyroid and thymus glands; but it seems highly improbable that the source of so important a factor as this in the problem of life should be limited to such obscure corners of the organism, when the blood channels are charged to overflowing with it; and it remains for the practical physiologist to work this out to the practical benefit of humanity.

ART. II.—**Appendicitis** *

By **WILLIAM L. ROBINSON, M. D.**, of Danville, Va.

LEADER IN THE DISCUSSION BEFORE MEDICAL SOCIETY OF VIRGINIA, ETC.

Since Lister bid the sensitive sentinel to allow the surgeons to pass through the peritoneum unchallenged, the battle between surgeons and physicians has waged unceasingly with victory kissing the banner alternately of either host.

The array of talent is grand indeed as we review the contested ground of medical and operative peritonitis, and the idiopathic contingent as a factor retreating in disorder, and trauma and tuberculosis advancing as the great causes. Then investigation revealed the heretofore unknown fact that that useless appendage, so far as we know, productive of no good to man, was the great instigator of peritonitis, and, indeed, easily outstripped all other provoking causes combined.

The eyes of the world have looked in wonder at the achievements in abdominal surgery, and, with bated breath, ever eager to see what comes next, gaze through the mist of the past as appendicitis occupies the vantage ground in the contest now waging. Nor is it surprising that journals

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team with discussion and society halls ring with the clash of conflicting views, when from the medical standpoint it is claimed that 90 per cent. of the human family have appendicitis at some time in life, with a mortality of from 2 to 25 per cent. While the surgeon demands the proof of his diagnosis, and charges that hundreds sleep the sleep that knows no waking, whose death certificates read "enteric fever," "peritonitis," "inflammation of bowels," etc., the surgeon further charges that the physician's statistics are speculative, while the operator's are real. True, says the physician, but look at your mortality, consider how you invade healthy tissue and cause infection and death. Acknowledging that the large majority of deaths result from septic peritonitis of your own dosing, statistics utterly fail to settle the point of dispute; for while Bull brings forth 450 cases operative, with less than 2 per cent. deaths, yet when you cull from individual experiences, that per cent far exceeds those figures, and if perchance some unfortunate has been barred operation till perforation and septic peritonitis has become established, you have a very different picture, and his figures severs the order of things absolutely.

I think it will be conceded that appendicitis can be more accurately diagnosed than almost any severe, dangerous malady of the abdomen; yet, when to operate with safety, is the question that makes every medical face grave and anxious. And, here, let me voice the fact that a marked difference exists with men in medical centres, with hospitals and house surgeons and trained nurses to watch every moment of danger, who stand in momentary readiness to secure operation at the opportune time, thereby rendering the minimum mortality statistics, and the less fortunate brother in country or small town, with few conveniences, with laity and physician arrayed against and delaying operation till peristalsis is inhibited, septic peritonitis enthroned, and death has already marked the victim.

I invite you, gentlemen, to pause and recall your feelings in the sick room, when you have diagnosed positively a case of appendicitis with localized indications and possible

abscess, rigid muscles, pulse, facial expression—all telling in language, though mute, yet too plain to be misunderstood, that a decision is imperative; the life of the head of that house hangs on your action, which may mean death by operation, or waiting in the mist, trusting to nature, which may mean death by omission of duty. This is a serious moment. There is no dodging. Unlike nearly all other affections, it does not admit of waiting.

To-day, let us try to evolve enough of truth to formulate rules, in some measure, to guide us in the future. I beg of you let not combativeness defeat the object of this discussion; humanity implores harmony; as brethren, let us reason together.

Statistics, while helpful, do not elucidate. Anatomy only tells of location, with the varied positions in different cases. Symptoms point to diagnosis, and, in some measure, to the stage of disease; but pathology is the key which unlocks the store-house of principles, upon which all of our actions must depend.

Classification is speculative and arbitrary to a great degree; for while the catarrhal, the ulcerative, the perforative are usually accepted as demonstrative of the varied pathological conditions, yet, who has yet demonstrated, by symptoms, the destructive stage, before his eyes have seen, or fingers felt, inside of the abdomen? 'Tis mortifying, indeed, to own the sad truth that the "border line is traced in sand."

I have studied carefully the literature, and been especially interested by the contributions of Richardson, White, Senn, Bull, Price, Morris and others. The symptoms of the catarrhal form—colicky pains, located in right iliac fossa, dependent on varied locality of the diseased organ, tenderness, constipation, little or no fever—are promptly cured in a few days, says the physician, by purgatives, sodium salicylate, bags of ice or hot poultices. Relieved temporarily, says the surgeon by such, but removed with safety.

The ulceration is said to be due to tuberculosis, enteroliths, trauma, bowel infection, etc. This is a more positive phase.

Pulse quickened, vomiting, acute pain, generally fever, tenderness—local or general at first, but becoming localized later—rigid muscles in some cases, induration, constipation; or all these symptoms, may be only slight. Here conflicting opinions exist; one class claims safety in prompt operation, while another advocates waiting till trial of medicines have failed, or abscess has walled in so that it will be as safe as opening an abscess in any other locality, or taking chances of opening in the bowel.

In the perforating class or fulminating cases, there we have violent pain, rigid muscles, vomiting, anxious expression, commencing tympany or collapse, indicating perforation. Tympanitis and vomiting are due to sepsis. Inhibition of peristalsis rapidly follows septic peritonitis or septic infection. So long as gas moves freely in the bowel, showing peristaltic ability, there is operative hope. Here most agree that operation is imperative, though useless unless prompt, and then with little hope.

Senn has especially called attention to appendicitis obliterans, and beautifully illustrated the varied points of disease, involving either the whole length of the appendix or strictures at different points, or proximal, or central, or terminal involvement, with localized abscess or ulceration. The appendix is often coiled and adherent to the bowel. The adhesions materially interfere with the blood supply, resulting in local distress and reflex nervous tremble. I have seen the appendix indurated and obliterated, except in small segments, without any enlargement or securing active inflammation, attached the whole length of the cæcum, in which pain was constant; the remnant of mucous membrane still secreting mucus, gas pent up, and pressure causing pain.

The tendency in these cases is constantly recurring attacks, and the mortality from operation is claimed as nil.

I shall not enter into the poor blood supply, lowered vitality, and anatomy of this organ. All of you have or should have studied it long ago.

McBurney's point is familiar to all. Palpation claims

space in journals, but when we consider how often the position is post-cæcal, it is seldom an available diagnostic symptom. All of you have observed closely the tendency to gaseous distention and reflex nervous disturbances after the first attack. All abdominal surgeons are familiar with the fact that bowel adhesions invariably cause these symptoms. And I would diverge here a moment to say that in pelvic operations, the removal of cystic ovaries is of minor importance, as compared to breaking up bowel adhesions.

One point on which the profession hangs fire persistently, is what to do when called in from the third to ninth day, with symptoms of induration, fever, rapid pulse, nervous distress, tympany, occasional or persistent vomiting. Purgatives have been given with a few hours abatement of symptoms; but all realize pus is there, adhesions are forming or have formed, and the dread of one class is the breaking of those adhesions, producing septic peritonitis and death, while the bold surgeon advocates a complete operation. This is a time of trial. The unfortunate results of operations, done too late in the community, make the friends tremble with fear and oppose operation, and the non-operative inclined medical man emboldened thereby, points to desperate cases recovered by patient waiting on nature.

If we will note the gradual increase of tenderness, tympany and vomiting, we will read the handwriting on the wall—the march of diffused peritonitis. It is said vomiting ceases when peritonitis is localized.

Richardson says, "Where a previous severe attack has preceded with peritonitis and extravasation, that instead of its rendering the subsequent attacks safer, in many cases the previous inflammation has so changed the character of the peritoneum, that it has lost its power of rapid adhesive formation, and has no power of restraining the extravasation, and the result is the peritonitis is fulminating and rapidly fatal."

It is claimed that flank tenderness indicates post-cæcal involvement, and that an extra-peritoneal operation is safe,

or possibly the chances are in favor of rupture in bowel of the abscess. I believe they are almost invariably intra-peritoneal, and even should the appendix be post-cæcal at time of the incipient attack, the peritoneum soon becomes involved.

It is also claimed that whenever an appendix once becomes involved and diseased enough to justify a positive diagnosis, that it becomes and remains a pathological organ, never safe to life till removed.

Now, gentlemen, I have hurriedly given pathology, symptoms and views as presented by writers, I know imperfectly, yet a sufficient outline upon which to base my further remarks. I shall not go into a dissertation on the part the bacillus commune coli plays, etc., nor shall I obey the classification of classical writers, except to recognize the intra-abdominal conditions when I get in. My classification is when to operate and how far to go.

It takes moral courage to make a true surgeon. He must expect failure, criticism and abuse. When you know your pathology is right, and you have confidence in your judgment, exercise the courage of your convictions, and march on to duty, leaving results to a higher power. You risk reputation and all, save conscience and honor. There is a surgical way to suggest an operation, which carries confidence of diagnosis, necessity of action, and faith in the result of your decision. There is a negative way, too often formulated, which carries the idea of doubt and fear and hope you won't submit, yet an apology to your conscience, a deception to your friends, and a cowardly retreat in the face of duty.

In view of the fact that a diseased appendix is a constant menace to life, I should, in the catarrhal state, and intervals of attacks, and in recurring and obliterating forms, operate without hesitation, and if clean surgery is done, the mortality should be nothing.

And in this condition I would always prepare my cases by withdrawal of food and purgatives. In commencement of all cases of primary attacks, I would risk the purgatives.

He who has had to do with gun-shot wounds of the abdomen, realizes the difficulty of an aseptic operation of septic peritonitis following and destructive tympany and vomiting. When he reflects how comparatively easily the gynaecologist glides on in his work, he laments the necessity of ever being compelled to do an abdominal section without purgative preparations.

In the ulcerative class, with forming or formed adhesions, if I could do a complete, clean operation, I would always do it, but if it was walled off and appendix difficult to reach, I would open, drain and irrigate.

In fulminating cases, with septic peritonitis commencing where all die without operation and most of them with it, I would open the abdomen, under cocaine if need be, and, in fact preferable, wash out, repair point of rupture, I mean if ulcerated in bowel, or remove appendix if not sloughed off. Puncture bowel with a trocar in a number of places (as I did in an operation of re-opening in gun-shot wound of abdomen two days ago), to relieve gaseous distention, which is easily and quickly done, and when you reflect that when the enormously distended bowel collapses, it leaves no hole, though I take a stitch for security. The flushing with hot water on lymphatic plexus relieves the patient, the removal of gas improves breathing and circulation, and you offer some hope where none existed without operation. You will fail often and be soundly abused, but when you have saved one life under such circumstances, you have achieved a surgical victory. I have operated in one case of suppurative peritonitis, with a pulse of 140, temperature 104, constant vomiting for a week, and tympany enormous. He recovered rapidly. A man without faith and strong hope, who goes in whipped before he operates, is unfit to use a knife.

While speaking of tympany, I am in the habit of using $\frac{1}{20}$ grain strychnia sulph. hypodermically every four hours to give muscular tone to bowels, and 3 grains of quinine in 6 ounces glycerine by bowel to excite peristalsis. Salines are worthless in inhibition of peristalsis due to septic infection.

The older I grow, the more thoroughly convinced I am of the neglect of that important means of correct diagnosis, exploratory incision. What a cloud of doubt it dissipates. How many die physicked to death, without having the least idea of the pathological condition existing.

I wish to emphasize the fact that nice surgery in use of knife, cool judgment, clean work and rapid manipulation are essential factors in the success of especially appendicitis and gun-shot wound of the abdomen. Without these, the patient had better take chances of nature's conservative efforts. I do not mean to discourage operations, but for the honor of the profession and the good of humanity, I urge you to thoroughly equip yourselves mentally, and make yourselves expert by surgical operations on animals.

I appreciate the necessity of rapidity in technique in abdominal work, and it has occurred to me, and I shall, in the future, adopt it, that where I fear necessity of re-opening, I shall use a bullet, perforated and slit on one side to fasten the silk gut suture, so that with knife it can be severed and stitches preserved intact, not needing removal. The bullet can be reinforced by perforated shot placed above, and the top one compressed.

If I shall evoke any truth by this discussion beneficial to my fellow man, or aid any of my profession by stimulating them to energetic study of cases, careful surgical work, and life-saving operations, I shall be grateful that I was appointed to lead this discussion to-day.

Messrs. Sharp & Dohme's "Price-List,"

Just issued, is a book that contains a great deal of practical information *for the doctor*, as well as the druggist. This "old reliable" of Baltimore, with offices in New York, Chicago, etc., adopts the method of titration with volumetric acid solution as its standard of assay. Whoever receives a copy of this "Price-List" is apt to preserve it for reference.

ART. III.—The Tolerance of the Peritoneal Cavity to Injury Illustrated by the Removal of a Fibroma of the Abdominal Wall.

By S. W. BUDD, M. D., of Petersburg, Va

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The day has not long passed since the abdominal cavity was a forbidden region. To open it was to imperil the life of the patient; and this dread was founded on the prompt resentment of the peritoneum to all injury. It was the holy of holies of the human body into which only the high priest of surgery dared to enter on rare occasions. Time has brought great advances in surgery.

Now that the abdomen is opened many times every day, we learn that to cut the peritoneum is no great injury, and the morbid conditions so constantly found within its cavity, excite our astonishment at the tolerance of this membrane. The old army surgeons tell us of the marvelous injuries to the abdomen, inflicted by shot and shell, recovered from.

A recent experience seems worthy of record as illustrating the extent of injury the abdominal wall and peritoneum may sometimes tolerate.

Fanny J., colored, æt. 24, married, one child eight years old. Six months later noticed an enlargement near the left anterior superior process of the ilium. For several years it slowly increased in size, causing no inconvenience; but during the past year it has grown rapidly, doubling its size in the six months previous to operation, and became painful. On admission to hospital, the growth was found occupying the left half of lower region of abdomen, overhanging Poupart's ligament, resting on the thigh. It was apparently in the abdominal wall, freely movable above, but below firmly fixed to anterior crest of the ilium, along Poupart's ligament and the symphysis pubis. It extended up to a level with the umbilicus, giving a vertical diameter of twelve inches, transverse diameter of thirteen inches, and six inches thick—as was found after removal. The skin was not adherent; no enlargement of neighboring glands.

An incision through the skin exposed the tumor, crossed by numerous large veins, that bled freely as the skin was reflected.

When the upper border of the tumor was uncovered down to the plane of the muscular wall, a deep sulcus was found extending around the mass, in the angle of which was attached what appeared to be the muscular wall of the abdomen, thus partially dividing the growth into two unequal parts, one-fourth being intra-abdominal.

A few light touches of the knife along this sulcus, immediately opened the peritoneal cavity. This membranous wall contained no muscular tissue, was but a few lines in thickness, and composed of the superficial fascia and aponeurosis of abdominal muscles, with peritoneum. The only muscle encountered in the operation was the rectus, which was crowded by the inner border of the growth over to the right of the median line. The lower margin of the growth was firmly adherent to the crest of the ilium, to the entire length of Poupart's ligament and across symphysis pubis; the dividing line between tumor and the adjacent tissue, was quite indistinguishable, and the separation accomplished with great difficulty.

On continuing the dissection, the internal iliac vessels were found running under the base of the growth, caught in numerous bands of adhesion. These being carefully freed, the further dissection was accomplished without trouble.

To obtain necessary room, the incision had to be enlarged from symphysis pubis upwards and outwards five inches. On removal of tumor, there remained the following serious condition:

A V-shaped incision, starting from middle of the crest of the ilium, running along Poupart's ligament and symphysis, thence upward and outward 15 inches long. This large skin flap turned up, exposed at the site of the tumor the intestines, with absolutely no covering, from the crest of ilium to near median line, and down to Poupart's ligament. The rectus muscle, which had been pushed over to the right side, was so relaxed on removal of tumor, that it admitted of its sheath being stretched across the abdomen, and sewed to a fringe of aponeurosis along the crest of the ilium and to Poupart's ligament.

Though the tension on this membrane was extreme, it was successfully done—giving a tense, strong fibrous covering to the abdominal cavity. Drainage was placed in wound at lowest point, near symphysis, and the skin brought down and secured by silkworm gut. While venous hæmorrhage

had been free, not an artery of any consequence required ligation. The peritoneal cavity was freely flushed out with hot water, and dried, before closing the abdomen. The shock from operation was not serious, having been guarded against by the administration of strychnia one-fiftieth grain, *t. i. d.*, for several days. Six hours after operation her pulse was 65, temperature 98½. Temperature on third day rose to 100; on the fifth day fell to normal and remained so. Stitches removed on the tenth day. Union throughout wound, except at site of drainage.

On the fourteenth day an abscess developed to the inner side of the antero-superior spine of the ilium beneath the skin flap—probably a stitch abscess from a buried suture; an ounce or more of thick matter was evacuated.

A specimen of the tumor was examined by Dr. M. D. Hoge, Jr, Professor of Pathology, etc., in the University College of Medicine, Richmond, Va., who pronounced it to be a fibroma.

There are several interesting features presented in the above case—

(1.) Its location in the abdominal wall.

The hard fibroma is nearly always found in some internal organ, most frequently in the uterus, often starting from the periostium, and also occurs along the course of nerves and in the skin; rarely in the subcutaneous cellular tissue.

This tumor was in the muscular wall, the skin was not involved, and its smaller lobe was intra-abdominal.

(2.) The absorption of the entire muscular wall from over one-fourth of the area of the abdomen.

We see such results of pressure in the absorption of bone, but its occurrence in this region and to this extent, must be unusual; so far as I can find, no like instance is on record.

(3.) The closing of this opening by stretching the sheath of the rectus muscle across the abdomen, securing it to crest of ilium and Poupart's ligament. That this new wall to the abdomen was an efficient covering, is demonstrated by the protection it afforded that cavity against an abscess between itself and the skin.

It is now seven weeks since the operation; a fulness is seen above the upper border of this artificial abdominal

wall, due to the difference in tension between the new fibrous wall and the natural muscular wall above. The outer edge of the left rectus is well to the left of its normal position.

The result is entirely satisfactory.

ART. IV.—Trephining in Epilepsy.*

By J. T. BOUTELLE, M. D., of Hampton, Va.

There is scarcely any condition to be met with in surgical practice which, at first sight, seems more imperatively to demand operation, or in which the operation seems more certain to fulfill the terms of the maxim, "*Causa sublata, tollitur effectus*," than traumatic epilepsy. But as we examine the recorded results of such operations, we find little to boast of as regards certainty of cure, and the prospect of brilliant success grows decidedly dim. Cures are, of course, effected, but by no means to the extent we should naturally expect.

We have two causes to contend with—first, an abnormal condition of the skull either in shape or structure produced by injury, which, by pressure or irritation for a considerable length of time, brings about the second—viz: the tissue change or molecular disturbance of the grey matter of the brain, and this is the immediate cause of the epilepsy. This condition of the grey matter may spread over an area of uncertain size or be confined to a small spot. When the molecular change in the brain-tissue has reached a certain degree, epilepsy begins, and goes on gradually increasing in violence. Then the question naturally arises—Do we expect to cure the disease by removing the primary cause?

Up to within a few years, the operation consisted of removing the depressed portion of the bone or of simply taking out a button over the site of injury. This was formerly a serious affair, but antiseptic surgery has rendered it as safe as almost any other operation.

* Read before the Medical Society of Virginia, October 25th, 1894.

Modern methods of surgery and the immense advance of neurological science in localizing the motor centres of the brain have emboldened surgeons to go much further than formerly. The new, or modern, operation consists of trephining over a very large area, opening the dura, examining the surface of the brain, removing cysts or growths, and in excising a portion of brain substance from the centre, indicated by the special symptoms in each case. One of the chief features of this operation is that it is performed for non-traumatic cases.

By the old operation, a fair amount of success has been obtained, either cure or marked amelioration in a respectable number of cases—certainly enough to justify the operation. If we believed many of the statistics collected to be beyond criticism, we should speak much more enthusiastically. I shall not attempt, in this paper, to give complete statistics, but will call attention to a few.

Walsham's collection gives, out of 82 cases, 48 cured and 13 relieved.

Dr. W. Briggs reports, out of 30 cases, 25 cured and 3 relieved. Such results as these would justify almost any serious operation.

In 1872, I reported a collection of cases performed at the Massachusetts General Hospital up to that time—12 cases, 4 cured, 1 relieved, 7 deaths.

In the *American Journal of Medical Sciences*, November, 1892, Drs. Gerster and Sacks report 10 cases. No cures—1 great improvement, and 1 slight improvement. These last are unusually frank statistics.

In most of the individual cases I have looked up, which are classed as successful, the record generally reads, "No fits two to eight months after operation when last heard from," and we never hear any more about that case. Very few records show observation of the case after six or eight months.

If a country surgeon does this operation, and it is not successful, he will never be allowed to forget it. I believe

that a successful record, to be of any value to the surgeon, must be that of a case which has been under observation from two to three years.

The following two cases from my own practice will serve to illustrate a few points of interest :

CASE I.—February, 1893. Edw. Johnson, white, æt. 18, when five years old, received a blow on the head from an axe which fell from a shed and cut through the skull. No doctor was called, and he had only home treatment. The wound healed, and he never had any symptoms until he was sixteen years old. Then, while sparring with another boy, he received a heavy blow upon the head, and shortly after began to have light epileptic attacks, which gradually increased in frequency and violence until now they occur once to three times a week and are quite severe. His parents say that they think his mind is becoming impaired.

I found a linear depression, running longitudinally over left parietal bone about middle of anterior third, about two inches long. My diagnosis was an original fracture of both tables without depression—that the blow eleven years later loosened some fragment and caused it to change its position and produce pressure on the brain. He was taken to the Dixie Hospital for treatment. The day before operation his head was shaved, scrubbed with soap and water, then with alcohol and turpentine, and a compress wet with a solution of mercuric bichloride—1-3000 kept on the scalp.

Operation February 14, 1893. Scalp-flap raised by horse-shoe incision. Button removed at each end of the depression, and the intervening piece sawed out. For this purpose, I used a small circular saw attached to a dental engine, and with this one side was sawed through, but in commencing the section of the other side the engine got out of order, and the section was made with a Hey's saw. Before completing the second section, I passed a flat probe under the skull, and felt a piece of bone projecting downward, close to the line of section. This was broken off with a small curved dental instrument and drawn out. The section was then completed. The dura had not been punctured by the fragment, and was apparently healthy. The edges of the opening were then smoothed off, and the opening thoroughly irrigated with bichlorid. sol. 1-3000. The flap was then adjusted and united by aseptic silk sutures. No drainage was used. The wound healed by first intention, and the patient never had a temperature above

99.5°. No pus was seen. No medical treatment was used until a week after operation, when an epileptic attack occurred. He was then put on bromide treatment.

He made a good recovery and went home. I saw him now and then for several months, and continued the bromide treatment. He had no fits for about six months. Since then I hear that he went away on a vessel, and while on a cruise the fits recurred, and now are as bad as ever. When I saw him last the wound was perfectly healed, but a deep depression was caused by the sagging of the scalp into the opening.

CASE II.—April, 1893. Frank W., white, æt. 40. Received a blow on the head when six years old, causing depression of bone. Ten years after, began to have epileptic attacks, *petit mal*, and these gradually increased in severity and frequency, sometimes being very mild, but often severe convulsive attacks. He tells me that before the attacks of *petit mal* he had peculiar sensations and mental disturbance, for which, at one time, a physician was consulted. I found a well-marked, rounded depression in right parietal bone about the middle of posterior third. He went to the Dixie Hospital, and his head was prepared as in the case just reported. A button of bone, large enough to include the depression, was removed. The dura looked healthy, but was slightly adherent around the opening. It was easily separated by light pressure with a small flat scapula. No projecting bone was found. The button showed some thickening, but no scar of fracture of internal table. The wound was closed as in the first case. No drainage. Union took place by first intention. No pus. No temperature above normal at any time.

About a week after the operation, he was much excited by a death at the hospital and the loud lamentations of the relatives, and had an attack of acute mania, being restrained with difficulty. Was then taken home, where he slept steadily for twenty-four hours or more, and then recovered his senses. For about two months, there was apparently great improvement, and either none or very slight attacks of *petit mal*, but after that time the attacks recurred and now are as bad as ever.

These cases illustrate the old operation under antiseptic methods, and are sufficiently typical to emphasize some points. In the first place, the healing by first intention, no pus, and no fever. In the twelve cases I reported occurring

before 1871 were seven deaths; the causes of death being suppuration, meningitis, or sloughing of membranes. It would be rare now to find such a proportion of deaths, or from such causes.

It will be noticed that in these cases benefit was derived from the operation at first—in one case no fits for about six months, and in the other great amelioration for two or three months, but then the disease recurs and gradually resumes its old course. This, I fear, would be the history of many a case reported cured, if it could be followed up, and I think it is a result for which there are many good reasons. It does not require an injury severe enough to cause pressure upon the brain by spiculæ of bone to produce traumatic epilepsy. Case II shows only a slight thickening of the bone and very slight adhesion of the dura. A case was recently reported in the *Boston Medical and Surgical Journal* where a button was removed, no adhesion of dura found, and only a slight hyperplasia of the bone. A scar of scalp wound occasionally produces the disease, and cases are reported where removal of the cicatrix had brought about a cure. Any injury which brings about a change in the skull tissue may cause molecular change in the brain beneath. Slight adhesion of the dura to the skull is a sufficient cause. Also a tumor in the white matter, near the cortex, will produce epileptic symptoms.

Now, when we remove a piece of the skull, we leave behind a condition likely of itself to produce adhesion of the dura to the margins of the opening, or the scalp sinks into the opening and either adheres to the dura or irritates it, and after a certain lapse of time we again have a condition which reproduces the disease. Then the details of the operation should be such as to prevent these sequelæ. In the old operation, I see no way of doing this except by carefully bevelling and smoothing the lower edge and closing the upper end of the opening with some hard substance.

In these cases, we notice that one had a fit one week after the operation, and then was put upon bromide treatment,

after which he was well for a long time. The other had an attack of mania, and then was put on medical treatment, and amelioration resulted. It is certain that operation alone will not cure. Medical treatment should be instituted in every case as soon as possible after the operation, and continued just as in an idiopathic case.

The modern operation consists, as I have stated, of removing not only the depression or a button at the site of the injury, but of trephining over an area large enough to allow of a complete examination of the brain surface. The dura is opened, cysts or growths removed, and the motor area to be attacked determined by faradization. Then a portion of grey matter, and sometimes some of the white matter, is excised.

Nothing can be more thoroughly scientific than this operation, and it seems to fulfill every surgical requirement in removing both the primary and secondary causes. From such a radical measure, we should naturally look for the most brilliant results. It ought to produce certain and lasting cures, at least in the majority of cases.

But it is a very severe operation, and attended with considerable risk. It generally demands two agents—one an expert in nervous disease to locate the exact part to be removed, and the other a more than ordinarily expert surgeon. If the operation is successful, it is a brilliant affair, and one to reflect credit on all concerned in its accomplishment. But if unsuccessful, the patient has undergone a serious risk to life, and still has his epilepsy, plus a very large hole in his skull, a more or less permanent paralysis of some part. Motor paralysis of the part governed by the centre excised, of course, is a result. It is stated by some of the most prominent operators in cerebral surgery that this paralysis is only temporary, and that the part will eventually recover its functions. The patient is also left with the same conditions I have mentioned, when speaking of the old operation, as possible factors in the recurrence of the disease at a later period.

Then, in order to justify such radical proceedings, we must have unusually good results.

Statistics of this operation are not, as yet, abundant, and I do not pretend to give anything like a complete collection; but I have examined the cases recorded in the *American Journal of Medical Sciences* for the past six years, and have tabulated an epitome of the cases I have found reported, fourteen in number. Two of these were caused by tumor of the brain, and eight were non-traumatic cases.

The study of cerebral surgery, as exemplified by many skillful operations in removal of tumors, is of great interest in connection with the subject under discussion. I have only collected the cases in which epilepsy was a prominent symptom. (See appended table.)

These records then give us three cured, six relieved, four not improved, one death.

If we take the bold result of these statistics, we must say that the modern operation makes no better showing than the old. Three cases out of the fourteen I have set down as cured, as they are just as good cures as are generally reported—*i. e.*, one case having no fits up to eight months after operation; one none for three months, and one none for seven months, but with complete paralysis of right arm. We find marked amelioration in five cases and slight in one. We cannot say that the excellence of results is commensurate with the brilliancy of the performance, or that such statistics justify so severe and difficult an operation. But in every operation of this kind each case must be taken by itself, and on examination we find that these fourteen cases were exceptionally bad and difficult to handle. The non-traumatic cases reflect much credit on the diagnosticians and operators. Future study and progress may enable the profession to give better results.

Among the details of the operation the most important, to my mind, is the closing of the external opening. For this purpose many means have been tried with varying success, replacing the buttons and filling in the interstices with

bone dust, using plates of metal, gold, silver, etc., celluloid plates, highly spoken of by some operators, and decalcified bone. Making a sort of trap-door by sawing three sides and partially sawing the other, raising the piece and afterward bringing it down again, is a method for which much is claimed. Replacing the buttons seems to me attended with as much risk of future trouble as leaving the hole open. The buttons may tilt and cause pressure; they may partially absorb and act as foreign bodies, or may necrose and have to be removed by a subsequent operation. In the above table we find a case where the operation was done for idiocy or some cerebral trouble, the buttons replaced, and after a length of time epilepsy came on. The buttons were found partially absorbed, some tilted and generally causing cerebral disturbance. In another case in which death occurred after three days, the buttons were found adherent to the dura, which I think would have eventually caused epilepsy had the patient lived.

The most successful case in every respect among the above is one of Dr. W. W. Keen's, in which he closed the opening by a piece of decalcified bone, and this is a method which I think ought to be followed up and given further trial.

As to instrumental methods of removing the bone, surgeons differ, some preferring the large trephine and rongeur, others the mallet and chisel, and others the circular saw. I only propose to speak of one, of which I have had personal experience, viz., the circular saw and dental engine. The only fault I have to find with it is that it is too good. It cuts bone with such ease and rapidity that it requires a light hand and much dexterity, and as we approach the inner surface we feel much anxiety lest it may cut through into the brain. The guard, which can be attached to the saw, cannot be regulated so as to be right for the varying thickness of the bone to be cut. After I had succeeded in making one section with this instrument, I was much relieved when the engine broke down and I could take a Hey's saw in my hand and go ahead with confidence. In

spite of the remark I find in Wyeth's Surgery that Hey's saw is a useless thing and should be discarded from among surgical instruments, I must say that I used it with great satisfaction in this case.

In connection with this subject the question always arises of early trephining in injuries of the skull, and when trephining should be done. In view of the fact that the operation itself may be a factor of future trouble, does it seem best to trephine immediately for every injury which may possibly cause epilepsy in the future? To my mind, certainly not. To trephine when there is no depression, or a simple fracture of one or both tables, unless symptoms are present demanding such interference, seems to me uncalled for and just as likely to produce epilepsy as the original injury. But after a certain lapse of time from the receipt of injury certain symptoms may develop, perhaps petit mal, or even before such indication, some mental disturbance or peculiar sensations which cause a consultation with the physician. This is the time. The moment any cerebral disturbance shows itself, after injury to the skull, is the golden moment for operation. The longer we wait gives the disease a better hold and it will increase in violence, and the longer it has lasted, the less the hope of cure.

The modern operation seems to be the only surgical means of effecting a cure or amelioration in the non-traumatic cases of focal epilepsy.

In traumatic epilepsy, I should say the old operation was the best, and advise operating at the very earliest symptoms of cerebral trouble, bevelling and smoothing the lower edges of the opening and closing the outer opening by the best method possible, and commencing medical treatment immediately after the operation. But if we find clear indications for opening the dura, the records of recent cerebral operations show that this proceeding is not attended with the grave dangers to life that we formerly feared.

No.	CASE.	Reporters.	Journal.	RESULTS.
1	Right-sided Jacksonian Epilepsy with facio-brachial paralysis. Tumor of left hemisphere involving centres for face and right arm. Trephined and tumor removed. Bone disks replaced, and united firmly.	Drs. Weir and Seguin.	<i>Amer. Jour. of Medical Sciences</i> , July, 1888.	Recovery. Temporary complete paralysis of right limb, and aphasia. Eventually regained speech, and the paralysis improved. Seven months after operation was having occasional slight spasms. Much relieved.
2	Epilepsy of uncertain origin. Attacks commence in right hand. Trephined over fissure of Rolando, dura raised and centre for left hand and wrist excised.	Dr. W. W. Keen.	<i>Ibid.</i> , November, 1888.	Recovered from operation in eight days. Left arm paralyzed, but showing signs of improvement. Two months after, the epileptic attacks were diminished in frequency and were only petimal. Much relieved.
3	Focal epilepsy of severe character. Attacks commence in left arm. Trephined over fissure of Rolando, right side. Three pieces of brain excised, each $\frac{3}{4}$ of an in. deep and $\frac{1}{2}$ in. wide at centres for left arm, hand and face.	Drs. Lloyd and Deaver.	<i>Id.</i> , Novemb'r, 1888.	Recovered from operation with motor paralysis of arm. Record three months after shows no convulsive attacks, and motion returning in arm to some extent. Much relieved (or cured).
	Here four cases of cerebral surgery are reported, of which three are of interest as regard epilepsy.	Drs. Jacob Frank and Archibald Church.	<i>Id.</i> , July, 1890.	
4	Dementia of alleged traumatic origin. Trephined, dura raised, and brain surface explored. Buttons replaced and united.			Great improvement at first, but in 9 months epilepsy developed.
	2nd operation. Adhesions of dura were found, very firm with processes running into the trephine pin openings. The small pieces of bone were partly absorbed and acted as bodies; the dura showed marks of the buttons and the interstices between the buttons showed fibrous scar tissue. The cicatricial tissue was dissected off, and the bone was not replaced.	Drs. Frank and Church.	<i>Ibid.</i> , July, 1890.	After 2nd operation, patient recovered, and in one month was reported as having no fits, and improved in all respects. Much relieved.

No.	CASE.	Reporters.	Journal.	RESULTS.
5	Jacksonian epilepsy. Trephined and tumor of brain removed. Five buttons replaced. 2nd operation. The buttons were found tilted and making pressure on the brain. Abscess of brain found, evacuated, irrigated and drained. Buttons were not replaced. One was left which had united properly.		Ibid., July, 1890.	Improved for a time, and then epilepsy recurred. After 2nd operation, recovered. One year after, record shows condition much better than before operation, but convulsions occur about once in ten days. Much relieved.
6	Idiocy and continuous choroid movements. Trephined over motor zones. Three buttons removed and replaced.		"	Died on the third day. Autopsy showed that the buttons were firmly adherent to the dura.
7	Traumatic epilepsy. Trephined, and a portion of cortex removed. The opening was closed by a piece of decalcified bone, stitched to the scalp so as to fit the opening.	Dr. W. W. Keen.	<i>Am. Jour. of Medical Sciences</i> , Septemb'r, 1891.	Recovery. No attacks at time of record, eight months after operation. The opening is closed with firm tissue. Cured.
8	Jacksonian epilepsy. Trephined over motor zone. Small growths excised from the dura and a portion of cortex removed. Bone not replaced. In this case, the fits occurred twelve to fifteen times in twenty-four hours.	Drs. Mills and Keen.	<i>Am. Jour. of Medical Sciences</i> , December, 1891.	Left limb paralyzed, but eventually recovered. Convulsions continued from time to time, but less severe and less frequent. Seven months after, record shows an average of three fits in 24 hours. Much relieved.
9	Cortical epilepsy. Fits severe at times, and at others mild. Trephined over centre for right arm. Dura opened. No cortical substance excised. Brain punctured by trocar on account of bulging. No tumor or fluid found, Brain surface washed.	Dr. Alex. B. Shaw.	Ibid., January, 1893.	Recovered. Seven months after operation, record shows entire absence of fits. Complete paralysis of right arm. Cured.
10	Traumatic epilepsy. Trephined over large area. Mass of thickened dura removed.	Drs. White and Wood.	Ibid., Novemb'r, 1892.	Recovered, and was well for six months. Then the disease returned, and intellect failed.
	Of the 10 cases reported by Drs. Gerster and Sachs, 4 may be classed with the modern operation.	Drs. Gerster and Sachs.	Ibid., Novemb'r, 1892.	No improvement.

No.	CASE.	Reporters.	Journal.	RESULTS.
11	Right-sided epilepsy after injury. Trephined over motor area for right arm. Dura punctured. No cysts.			Recovered. No attacks for about 1½ months. Diminution of attacks. Case not heard from later. Relieved.
12	Traumatic Jacksonian epilepsy, involving muscles of right side of mouth. Trephined over centre for angle of mouth. Adhesions found under the buttons. Small cysts on dura punctured.	Drs. Gers- ter and Sachs.	<i>Am. Jour. of Medical Sciences,</i> Novemb'r, 1872.	No improvement.
13	Injury of right side of occiput. One year later, right hand and leg convulsed. Averages three to four fits in two weeks. Trephined and motor centre on left side exposed. No cortical tissue removed. 2nd operation 31 days later, and arm centre removed.	"	"	No improvement.
14	Non-traumatic Jacksonian epilepsy, beginning in left hand. Trephined and centre for left hand removed.	"	"	Some immediate improvement, but no lasting benefit.

ART V.—Psychical Epilepsy *

By SAMUEL J. FORT, M. D., Ellicott City, Md.

In selecting the term "psychical epilepsy" as a title for your consideration, it is not so much for the purpose of describing something that is probably familiar to the members of this Society, as it is to secure a point of departure from which to call your attention towards certain obscure mental conditions, which the term seems to cover quite as well as it does the conditions set down under it in the books.

Most of the writers upon the diseases of the nervous sys-

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tem recognize psychical symptoms as occurring not rarely among epileptics, but some approach this subject apparently from different standpoints. For instance, Gowers, in his brochure on epilepsy and other chronic convulsive diseases, speaks of post-epileptic automatism and post-epileptic hysteria, but makes a point of division between these conditions and mental disturbances. Under the latter term classing epileptic mania, suggesting also that many cases of paroxysmal epileptic mania are really examples of post-epileptic automatism.

Wood divides the psychical symptoms into motor excitements and disturbances of intellection. Dana, on the other hand, divides idiopathic epilepsy into three types—viz.: major, minor, and “the rarer larvated forms characterized by acute mental disorder, and called psychical epilepsy, or the psychical epileptic equivalent.”

Dana further describes the symptoms of psychical epilepsy as follows: “Sometimes the minor attacks are followed by outbursts of maniacal excitement or by sudden violent automatic movements, and in these states the patient may commit crimes of violence. In rarer cases the patient passes into a somnambule condition, during which he performs accustomed acts, such as driving and walking automatically and naturally. This form may come on without a preliminary attack, and then it is to be considered a ‘psychical epileptic equivalent.’”

While admitting the difficulty of accurately classifying the phenomena of a disease which shows a range of symptoms, limited only by the ability of the muscular system to respond to the motor nerves on the one hand, on the other confined only by the varied and complicated workings of the higher centres which may be involved pathologically, for convenience of discussion, the definition of psychical epilepsy may be accepted as given, though I hope to be able to show wherein it may be stretched to cover a class of defectives in which phenomena are exhibited that might very well be termed psychical; the three cases following will perhaps better explain my meaning.

The first is mentioned in a paper by the late Dr. I. N. Kerlin, entitled "The epileptic change in feeble-minded children," published in 1893.

"A girl of four, when brought under observation, had a choreic habit of biting, but no other special eccentricity. During her fourteen years of training at Elwyn she ranked high in her school duties and became useful in and about the household, but never really gave up her habit of biting; her paroxysms were accompanied by no visible prodroma; they were directed against the loved and unloved, and she was as irresponsible and helpless when snapping at her victim as the typical epileptic when he falls to the ground; her face became flushed after the act, with a wild lost look on it, or sometimes it was the face of a swimmer rising from the water more chilly than he anticipated when plunging into it—cold, cramped and surprised. There were long suspensions of these attacks, like the hopeful rests of epilepsy, to be followed like them with disappointment in a fresh outbreak of her irresponsible ferocities." There was at no time any sign of a fit.

Another case is also a female, now eighteen years of age, who came under my care five years ago. She was then a rather low-grade imbecile, utterly unused to the requirements of polite society, unclean in her habits, irresponsible to either love or fear, but with no history of outbreaks of violence or destructive habits. Under the softening influence of our school training she gradually brightened, began to talk, learned to read and write, and displayed much affection towards her teacher and the attendant. One day she suddenly attacked her attendant, giving as an excuse for the outbreak that the attendant had struck her first. When I saw the girl a few minutes after the fracas, she was a picture of sullen imbecility; simultaneously with the explosion of muscular and nervous action she seemed to have relapsed into the mental condition of a year previous. In a week she regained most of her lost ground and remained in a quiet and satisfactory condition until she again exploded a month or two later. Isolation for a short period restored her equilibrium, and at this stage she was removed to her own home.

Hardly had she arrived when she had an attack of passion, and one followed another, alternating with periods of sexual excitement, until her condition made it imperative that she be confined again in an asylum. Returning to us,

she took her place as though she had never been away, so far as her general behavior went, but she acted as though in a cataleptic condition, refusing to talk, and leading a sort of oysterlike existence. Under active treatment she once more regained her lost ground, but with increased mentality came again the violent outbreak of temper, followed by periods of depression. At no time in her life has there been any signs of epilepsy, though her family history is very bad. Her father is not a man of high mental power, while her mother was a nervous, excitable individual, recently deceased from apoplexy.

The other case is that of a boy now nearly twenty years of age, who has been under observation for about four years. He is a nice, clean fellow, capable of a certain amount of school training, fond of play, obliging and friendly. There is nothing in his family history out of the ordinary run of such cases; he showed signs of backwardness at an early age, failing to come up to the ordinary attainments of lads of his own age, but he was fourteen years old before he gave evidence of perversity; at this time he eloped from home without reason or warning, and was returned to his distracted family by the police in what was said to have been an insensible condition.

In a short time he repeated his elopement, and was found again insensible (?) in a public park not far from his home. He was now sent to me and from the first became one of my most interesting cases, eager to learn, easily controlled, and apparently trustworthy.

Taking advantage of an opportunity after he had been with me about six months, he ran off, but was seen to start and captured before he had gone very far, being located in a small piece of woods near the house by a sort of barking noise, and there were evidences near by that he had vomited freely; to all appearance he was perfectly unconscious, but after being undressed, a suggestion of a doubt roused him sufficiently to enable him to talk; beyond considerable depression he was himself again in a few days.

Later on he again left us, and was only brought back after he had been wandering about for nearly twenty hours; the exhaustion following his efforts at pedestrianism was enough to keep him in bed for nearly a week, and this was the last time he ever ran away. A new phase now developed; if at any time he had a real or fancied difficulty with attendant or teacher he would be brought to me suffering from a pain which he could not or would not locate; being

sent to bed he remained there for two days, refusing to eat or talk; at the end of the forty-eight hours he rose with his companions and took his place in his class as though nothing had happened.

We now noticed that he was standing still mentally, and that the slightest excuse brought on an attack of this exceedingly elusive pain, each attack followed by a period of depression, refusal to eat, and a marked physical change. He would begin the attack a fairly well nourished boy, and in the course of a few hours would look as though he had passed through a serious illness—his cheeks and eyes sunken, features drawn, respiration, temperature and pulse below the normal. Equally remarkable is the rapid recovery of lost ground when reaction once sets in.

Idiopathic epilepsy is defined by Wood as a "tendency to an abnormal discharge of nerve force at irregular intervals and without obvious cause, but dependent upon some persistent, almost irremediable state of the nervous system."

We are so used to seeing the fit, this abnormal discharge of nerve force, in its more or less typical expression, that the observer sometimes fails to grasp the significance of other symptoms dependent equally as well upon the tendency to such explosions. Dr. Charles Mercier relates a case in *Brain* in which the manifestations of the discharge covered a period of time without actual convulsion, and this led him to suggest that in this case, at least, the absence of convulsion could be ascribed to the gradual and extremely deliberate escape of the liberated energy. I have no doubt that other observers have seen analogous cases, but with the case mentioned above, and with many other similar cases, there has been a previous history of spasm, or later the spasms show and the solution of the problem is then easy; but how shall it be determined that we are dealing with a condition analogous to epilepsy or a type of the true disease, when there is no such history?

The moral imbecile has been recognized, but in this class we find cases whose mental attainments rank them among those whom the elder Seguin spoke of as approaching so closely the normal standard that competent judges might

fail to detect the difference, the underlying defect being the lack of moral sense. Here, again, we are balked in obtaining grounds for a classification; such defectives have generally been under observation for so long, that their perversities have been mapped out, and the typography shows how neatly they make a business of their wrong-doing.

If we have to deal with a sudden homicide or suicide or crime against the person committed by one hitherto of good moral standing, dementia paralytica or the pure insanities may be at the root of the trouble. It is, however, with a class of more childish defectives that the conditions I have endeavored to describe obtains.

A class that is not lacking absolutely in moral sense, but whose mental equilibrium is so unsteady that its equilibrium is easily disturbed, and whose mental obliquity turns towards wrong-doing—having possession of a moral sense, but without power to resist the tendency to do wrong, and this tendency showing in recurring attacks of perversity.

I believe with Wood, that some children are born with the convulsive tendency, a proneness of spasm so firmly ingrained that no known treatment can prevent its pre-natal doom. I also believe that there are others in which this tendency can be overcome by proper medical, hygienic and pedagogical treatment. Even though early spasms have occurred, there is reason to believe that the nerve-cell can be brought to a condition in which they are less plastic, less receptive to external influence, and less liable to abnormal discharge of nerve force.

Now, if it is possible for this tendency to be born in the human organism, is it outside the range of possibility for the discharge of nerve force to show itself in moral perversities rather than convulsions?

It may be wrong to argue that a neuropathic condition in one individual provokes idiopathic epilepsy in another, produces a crime of whatever degree as its resultant feature, but later on closer study and better facilities for observation may show that the same cause may and does produce just such results, and that many of the juvenile criminals

now incarcerated in our reformatories and penitentiaries are really victims of a true psychical epilepsy or its equivalent, in which the manifestations of this hydra-headed disease have been the crimes for which they are imprisoned.

ART. VI.—The Hygienic Treatment of Syphilis.*

By T. M. BAIRD, M. D., of Hot Springs, Ark.,

FELLOW OF THE MEDICAL SOCIETY OF VIRGINIA, ARKANSAS MEDICAL SOCIETY, HOT SPRINGS MEDICAL SOCIETY.

To successfully manage a case of syphilis, it is necessary to pay attention to the rules of hygiene. Far too many physicians confine themselves to treating the disease with mercury and the iodides, seeming to forget that the hygienic treatment is almost, if not quite as important as the specific treatment, for one is an auxiliary to the other. It has been clearly demonstrated that syphilis cannot be aborted by any known means. After the syphilitic poison or virus has once entered the system, we can only hope to assist nature in eradicating it, and to administer remedies which prevent destructive changes. Tell your patient frankly in the start that it will be necessary for him to undergo treatment for at least two years, that you cannot hasten the cure by prescribing heroic doses of medicine; but by taking a regular course of treatment, and by abiding your instructions in regard to his mode of living, no grave symptoms are likely to appear, and that he will ultimately be cured.

It is important for a syphilitic patient to be regular in his habits, to avoid excesses of all kinds, and to have a sufficient amount of plain but wholesome food. The syphilitic virus is destructive in its action; consequently we must endeavor to keep the system in a good healthy condition, that nature may combat any destructive changes that the syphilitic virus may cause to take place. In order to do

* Read (by title) before the Tri-State Medical Society of Alabama, Georgia, and Tennessee, October 9th, 10th, and 11th, 1894, Atlanta, Ga.

this, food of a proper kind, and in sufficient quantity, must be properly digested and absorbed to supply the waste, and an ample amount of sleep must be had. Eight hours' sleep in the twenty-four are necessary in a large percentage of cases—the hour for retiring and rising being the same each night and morning.

Acids and saccharine articles should be avoided. Acids are likely to produce salivation while mercury is being taken, and are contra-indicated while an alkali, such as iodide of potash, is being administered. Never allow saccharine articles, pastry, etc. They are likely to produce stomach or bowel disorders, which may necessitate a discontinuance of all treatment for some days. Never use syrup as a vehicle for the iodide of potassium or sodium; the taste is disguised to a certain extent, but the stomach suffers in consequence. Give the iodides in water, and there will not be so much complaint against the remedies disagreeing with the patient, but it should be largely diluted.

It is best for the patient to wear flannel or merino under-clothing—special injunction being given against catching cold; for should tonsillitis follow, mucous patches are likely to make their appearance.

A moderate amount of exercise in the open air should be indulged in by the patient each day. Do not tell him to exercise regularly, but specify how much and what kind of exercise you think best suited to his case; if that be done, he will not be so likely to over-do the matter or fail to take a sufficient amount. The bicycle is one of the best gymnasiums; it will exercise every muscle in the body in a mild, scientific way, and if used in moderation, will accomplish much good.

Stimulants of all kinds should be avoided; but if the patient is a drinking man, it is best to allow him a small allowance each day. Excesses of all kinds are harmful in the extreme; tobacco is very depressing. Smokers are almost sure to have mucous patches of the mouth and throat, that do not respond readily to treatment. The bowels should be regulated and the skin kept in a healthy condition by tak-

ing warm or hot baths frequently. That "cleanliness is next to godliness," should be impressed upon the patient, for in no other affection is it more important to pay attention to the proper cleanliness of the skin. The skin has millions of pores through which the syphilitic poison may make its exit. Allow these pores to remain closed, the normal perspiration and respiration through the skin is interfered with thereby, and forces the virus to remain in the system; the general health suffers, vitality is lowered, and a depressed state of mind and body follows, and it will not be long before the patient will be in a deplorable condition. Open these little outlets, allow the skin to perform its natural functions, and the diminution of the poison will be hastened.

It is not only necessary to bathe regularly, but to imbibe large quantities of water. When a large amount of water is taken into the system, an increased amount of the products of retrogressive tissue-changes take place, a larger amount of urine is excreted, the perspiration is increased. Especially should the water be hot when used. The reputation of the Hot Springs of Arkansas is largely due to the eliminative properties of the water; but should it be thought best not to send a patient to this resort, use artificially-heated water, which, if not so efficacious, will undoubtedly do much good.

Combat, with every means in our power, every depressing influence. Morbid habits must be broken up by firm, but gentle moral treatment. It can be done, and from a depressed, melancholy man we will find a cheerful, hopeful, and grateful patient.

Remember that the syphilitic virus in the blood destroys the red blood corpuscles, which, when deprived of vitality, act as irritants to the tissues of the body.

In all cases of syphilis, the principal factors we have to guard against are: Toxæmia, inanition, exhaustion, and destructive tissue changes.

For the toxæmia, mercury and the iodides are our sheet-anchors, but medicine is powerless to accomplish its specific

work if we do not *assist its action* by keeping the economy in a condition able to resist the ravages of the disease.

It must be admitted that there is a certain small class of patients that do not progress satisfactorily under treatment, although they obey instructions. These cases are rare, for the large majority of patients are amenable to the line of treatment described if carried out in detail.

ART. VII.—Eczema Vesiculosum.

By **SAMUEL E. WATKINS, M. D.**, Washington, D. C.

DEMONSTRATOR OF DERMATOLOGY, IN THE UNIVERSITY OF GEORGETOWN.

All cases of eczema, I have no doubt, are very interesting, even to the general practitioner; but to one who has made it a special study it always shows some new forms and characteristics which are not apparent in all preceding cases; and I shall endeavor, as briefly as possible, to give some salient points for its general management.

The case I wish to call attention to more especially is one of the most marked cases of vesicular eczema which has ever come under my control.

Vesicular eczema is, as a general rule, confined to some grouping of the vesicles, and numerous spots appear over the body; the size of the vesicles varies from that of the head of a pin to the size of a five-cent piece. This increase in size is due to the coalescing of vesicles over the hardened epidermis, more especially of the hands and soles of the feet, forming, in some cases, bullæ.

The usual seat of the eruption is the face, the hands, and between the fingers; the whole surface of the body is rarely affected.

This patient was admitted into my service at the Central Dispensary on the 25th of October, and has been under my immediate supervision ever since. The patient is a boy, white, sixteen years of age, has dark skin, and a slight amount of anæmia, but with this exception his general condition was good on admission. He has never been ill for any length of time and his family history is good. He never has had any skin disease before.

Suddenly, without any cause apparently, his whole neck and chest became intensely hyperæmic, which condition was followed in a few days by the appearance of small vesicles, the size of a pin, over the inflamed area. Later, the hyperæmia became general, and the whole surface of the body, save the face, palms of the hands and soles of the feet, were covered with vesicles.

The disease was acute in character, and he had all the symptoms one would expect from an acute inflammation—fever, general malaise, headache, bowels constipated, etc.

The eruption, as usual, was accompanied by intense itching, and the desire to scratch and tear away the skin was almost irresistible—so much so that the patient was absolutely unable to sleep or rest quietly. The vesicles were constantly breaking and their contents—a clear, whitish fluid—would ooze out, forming crusts over the whole surface.

As to the cause of the trouble in this case, it was found to be indigestion, complicated as usual in such cases with atony of the bowels.

As to treatment, I ordered a saline mixture, composed of the following:

R̄ Magnes. sulph..... ʒij
 Ferri sulph..... gr. v
 Acid. sulph. arom..... gtt. xv
 Aq. menth. pip..... f ʒss

M. Sig. One dose, to be repeated three times a day.

His diet was attended to, excluding all fats, acids, and starchy foods. To relieve the itching and to absorb the fluid of the vesicles and soothe the inflamed area, I ordered an ointment composed of the following:

R̄ Magnes. carb..... ʒij
 Hydrarg. chlor. mitis..... ʒiss
 Pulv. zinci oxidi... ʒss
 Acid boric..... ʒj

M. Sig. Apply 3 times daily.

In the course of a few days the vesicles were all absorbed, and desquamation occurred, and the skin underneath was sound and healthy. The treatment was continued for a few weeks, and when the patient was last seen, he informed me that he was almost entirely well.

Of course one cannot rely upon any drug or combination of drugs to use in every case, but salines are *always indicated*; and any preparation, which will stop the itching and act as a soothing application externally, will relieve and correct any acute eczema vesiculosum.

ART. VIII.—The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.

By J. C. LE HARDY, M. D., of Savannah, Ga.

[Continued from page 704, November No., 1894]

While waiting for the answer of the Chief of the Marine Service and Quarantine Bureau, I succeeded in getting hold of Nos. 33, 34, 35, 36 and 37 of the "Weekly Abstract of Sanitary Reports," published by the Marine Hospital Service. In them I found the correspondence between the Supervising Surgeon-General at Washington and his surgeons at Brunswick; and it did not take long to understand why Sanitary Inspector John Guiteras failed to answer my questions.

Ever since 1871-72, when the first steps were taken to establish a Central Bureau of Quarantine in Washington, as an appendage of the Marine Hospital Service, under the leadership of its Supervising Surgeon-General, John Woodworth, the Service has been so conducted as to render it instrumental in bringing about the now popular belief that yellow fever is an *exotic* disease, requiring "maritime quarantine" to prevent its introduction into the country, and that it is contagious and a very dangerous and fatal disease, demanding stringent and arbitrary measures (interstate and inland quarantine) to prevent its spread over the country.

It is not, therefore, the policy of the Marine Hospital Service to foster any investigation which would in any way militate against this popular idea. To this, perhaps, may be attributed the collapse of Sternberg's scientific investigation of yellow fever.

Surgeon George M. Sternberg, U. S. A. (now Surgeon-General) was sent during Cleveland's first administration to Brazil, Mexico and Cuba—countries where yellow fever still retains its pristine vigor and typical symptoms—to study the disease and search for its cause; to inquire into the claims of the discoverers (?) of the yellow fever microbe, and to ascertain the value of Friere yellow fever inoculation as a preventive.

The report which this official made on his return clearly demonstrates the worthlessness of the supposed discoveries of Carmona, Friere and others, and to feel that a continuation of his bacteriological investigations must soon bring to light the coveted "germ" of yellow fever. Why this most important and valuable work has not been completed by the two last administrations, remains an enigma.

In an article written upon this disease in the eighth volume of *Reference Hand-Book*, Doctor Sternberg says: "The yellow-fever patient does not directly endanger those who come near him." "Frequently individuals fall sick in Petropolis (a health resort in the mountains of Brazil), who have visited the infected city of Rio de Janeiro. Never do they communicate the disease to others." The promulgation of doctrines such as these would soon subvert the entire work of the *machine* as it is now operated by the Marine Hospital Service.

Take from yellow fever its *pretended* contagiousness, and it would be as innocuous as the fangless rattlesnake. Put this "dreaded" disease in the class of intermittent and remittent fevers, where it has drifted of late years, and what need would there be for all these quarantines (maritime, interstate, inland)? for the isolation and segregation of patients? for the disinfection of houses? of cars? of clothing, etc.? for the fumigation and "punching" of mail matter? for the "cordons sanitaires" and its hundreds of paid guards? for camps of detention, camps of probation, and their numerous retinue of nurses, guards, stewards, etc.? for the appointment of "acting" assistant surgeons, here, there and everywhere, whether needed or not needed? for yellow fever experts brought at great expense from many cities and States? and for *the one million appropriation* now used so freely by the new regime.

No wonder that an extinguisher has been placed over Surgeon Sternberg's work; and is it surprising that no answer was sent me by the Marine Hospital Service Sanitary Inspector, who felt that, with the well-earned reputation he has made as a yellow fever expert, he could not

write to me in a manner that would be agreeable to the head of the Service, and therefore allowed his chief to make the "amende honorable," as we have already seen? In this connection, I transcribe the correspondence of Dr. Guiteras to Supervising Surgeon-General Wyman, Washington, D. C., relating to and comprising all investigations, scientific and otherwise, made by him in August and September, 1893, to the time it was finally discovered that Brunswick was infected. It will be read with keen interest by every pathologist and bacteriologist at home and abroad:

BRUNSWICK, GA., *August 17, 1893.*

SIR,—I arrived this morning and at once examined Dr. Branham, and found him suffering with yellow fever. As I reported briefly by telegraph, the prognosis is very bad.

I have condensed the mortality reports of the city for this year and last year. A contrast between the two does not positively decide whether there is any fever in town, besides the doctor's case. I must say that this investigation awakened some suspicion, enough at least to make me feel that I must look into the matter further by going around and visiting the sick with their doctors.

I visited the quarantine station, where the doctor was taken sick; this afternoon. I cannot see any positive evidence that he contracted the disease there, except this: Where did he get it, if not there? Of course, here the question of the city infection comes up, and that I have to leave as yet undecided.

If Dr. Branham is the only case in town, there need be no fear, as the premises and surroundings are in charge of Surgeon Hutton. I repeat, the question is, whether the city is infected. The mortality is less than it was last year, but there is a comparative increase of the mortality among the whites, and especially from such diseases as might be confounded with yellow fever. These features, when sufficiently pronounced, are very characteristic of the beginning of an epidemic, but they are not quite as well marked as they ought to be to found a positive opinion upon them. I leave the matter, then, undecided until I make an inspection of the practice of the local physicians. I am willing to state that I am inclined to take the more favorable view in this question.

Very respectfully,

JOHN GUITERAS,

Sanitary Inspector, M. H. S.

To the Supervising Surgeon-General M. H. S.

I have secured the official mortuary reports of the two preceding years, and can find no indication therein of a threatened epidemic:

TABLE SHOWING INFANTILE MORTALITY AND MORTALITY FROM FEVERS, TAKEN FROM OFFICIAL REPORT OF 1893.

BRUNSWICK, GA.

MONTH.	POPULATION.		MORTALITY—												CONTINUED FEVERS.										
	W.	B.	Total.				Intermittent.				Remittent.				Congestive.				Catarrhal Fever.				Gastro-enteritis.		Enterocolitis.
June ..	5000	3341	11	13	8	5	.....	1	.....	1	.....	1	.....	.....	1	.....	.....	.....	3	1	.....	2	.....	1	3
July ..			5	14	5	2	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

REMARKS.—Gastritis, gastro-enteritis and entero-colitis are names frequently given to a continued fever, often called typho-malarial.

This shows the remarkably small mortality of one by fever in a white population of 5,000 in July.

The following very suggestive inquiries were sent to Sanitary Inspector Guiteras from headquarters:

WASHINGTON, D. C., August 21, 1893.

Hutton reported you to be investigating cause of Branham's fever. Continue said investigation and report immediately on conclusion. Look to ballast pile, or could he have contracted disease while disinfecting a vessel? Wire

particulars concerning case No. 2, and whether Hutton and Carter have gone to South Atlantic Quarantine. Will send more help, immune doctors, immediately on demand from you.

WYMAN,

Surgeon-General M. H. S.

To this the following remarkable answer was given :

BRUNSWICK, GA., *August 21, 1893.*

Source of Branham's case cannot be positively demonstrated. Appearance of second case was independent of the first. Suggest that Branham was infected in town. Have suspicions that sporadic cases have occurred here early. Ballast pile may have infected Branham; no way of proving this. Hutton and Carter are here disinfecting, isolating, and removing second case to Branham's house; no new cases. Second doing well.

JOHN GUITERAS,

Sanitary Inspector M. H. S.

Under the impression that Brunswick was free from infection, and in order to have the internal quarantine removed, the following was sent to the head of the Bureau:

BRUNSWICK, GA., *September 7, 1893.*

Since the case of the Cox child, there has been no case of yellow fever at Brunswick. I have finished to-day an examination of cases of fever at present existing, and none are suspicious.

JOHN GUITERAS,

Sanitary Inspector M. H. S.

This is all! The professor of pathology evidently felt that any scientific investigation must be hurtful to the Quarantine Bureau, hence he made none. Besides, he had expressed his views of yellow fever in the following letter, that was published in Brunswick at that time :

I understand that some remarks made by me before the board of health have been misunderstood. I have to request the publication of the following statement: I have never said that yellow fever is epidemic in Brunswick. I know that it is not epidemic within the limits of the United States. Every case of yellow fever occurring in this country is more or less directly traceable to importation.

I am very respectfully yours,

JOHN GUITERAS, M. D.

And yet he was obliged to "suggest" "that Branham had contracted the disease in town," to say that "the second

case (Harris) was not contracted with Branham's," and that "the third case (Cox's child) was unconnected with the others,"—statements which surely indicate the local origin of these cases. An attempt was made to connect the origin of the epidemic with the Barkentine Anita Birwind, whose master died of yellow fever June 25th, 1893, on the Saltillo River, some 60 miles above Brunswick, but Health Officer Dunwoody, in his report to the Mayor and Council, fully demonstrated that the Anita was not infected. "She had discharged her cargo in the open bay; none of the crew, save only the master, had been ashore and visited the infected city (Havana), where he inhaled the germs of the disease. The vessel was fumigated and disinfected on the 15th of June, and on the 19th she was discharged from quarantine. While sailing up the river, the captain was taken sick, and he died on the 25th from what proved to be yellow fever. The Anita, with her crew and the 25 laborers who had been employed to load her, were sent to the National Quarantine Station, Sapelo Island." Not one of the crew or of the laborers contracted yellow fever. The Health Officer of Savannah had accused Quarantine Officer Dunwoody of neglecting his duties, and, on June 28th, 1893, offered his services to the head of the Marine Hospital Service, and they were accepted, as will be seen in the following extract, taken from a letter of Surgeon Carter to his Chief, and dated July 1st, 1893, at Conquest Camp, Ga., on the Saltillo River, the house where the master of the Anita died: "Doctor Brunner and I burnt and boiled nearly all of the possibly infected articles yesterday, and will finish to day." It was upon Brunner's representation that the Mayor of Savannah assumed the responsibility of urging upon the Governor of Georgia the necessity of putting the control of the Brunswick Quarantine in the hands of the Federal Government—that is to say, to surrender one of the only State's rights left us. It was through the request of Governor Northen that Branham (the first case) was sent to Brunswick by the head of the Marine Hospital Service.

Another report, freely circulated, was, that Branham had been infected at the Quarantine Station. To know the facts in the case, I addressed myself to the Quarantine Officer, Dr. J. A. Dunwoody, who answered :

"The vessels that were boarded, inspected and fumigated by Dr. Branham, I will enumerate them—July 27th, 1893, British Steamship Dunsmore from Cardenas, via New York, released August 4th; July 27th, 1893, Spanish Bark Golofre, from Havana, released August 5th; July 31st, 1893, American Schooner Florence and Lillian, from Cabarien, released August 7th; August 2nd, 1893, Bark H. L. Routh, from Santos, via Sapelo Quarantine Station, where she discharged ballast and was disinfected and given pratique, released August 2nd; August 2nd, 1893, British Steamship King Alfred, from Demerara, via New York, released August 9th—she left one man sick in Demerara; ship records do not say of what disease. This vessel arrived in New York, after twelve days' passage, discharged cargo of sugar in five days, was four and a half days *en route* to this place. Dr. Branham and myself boarded and inspected this vessel together. Dr. Branham attended to her disinfection. The Galofre had been thoroughly disinfected in Havana before sailing."

Had there been any loop-hole to let "infection" or "contagion" creep in, the Marine Hospital Service Inspector would not have answered his Chief—"I cannot see any positive evidence that he contracted the disease there!"

Now, let us see what are the immediate and the remote effects of this internal quarantine (the closing of every avenue of communication with the outside world) and other practices in the management of epidemics.

What else but the dread of being shut up in an infected hole could have caused the panic that occurred on the 12th of August, simply because the announcement was made that a case of yellow fever had been brought into the city? The inhabitants of Brunswick had too vivid a recollection of the hardships and tribulations that had been endured by those who remained at home in 1888, when yellow fever appeared in Jacksonville. No refined persons, male or

female, would *willingly be held as prisoners* by armed guards, or be subjected to the mode of life and the "rules and regulations" "peculiar" to camps of "detention," of probation, etc. Immediately upon learning that a case of yellow fever had appeared in the city, rather than submit to the outrage, they prepared to leave all the comforts of home and rove about in exile. (A report that five cases of yellow fever had occurred previous to Branham's had no foundation, as the mortuary records show.)

This action of the people of Brunswick is not an exception to the rule. The same thing occurred at Pensacola, when, on August 9th, the Surgeon-General of the Marine Service and the *whole world* were apprised of the occurrence of two deaths from yellow fever. Its people knew, from former experience, that the "Cordon Militaire" would soon be established, and hundreds of them rushed away—to be informed after a few days, by the highest health officer in the State, that one of these cases was *not yellow fever*, while the other he called "*suspicious*." The cordon, with its armed guards, was, *nevertheless*, put on, as the following telegram from Pensacola, dated August 13, 1893, shows:

"Cordon about reservation complete to-day. Have inspected it, and authorized employment of additional guards.
Carter, Surgeon M. H. S."

This farcical rule of the new *regime* was kept up until the 19th:

"Cordon removed; no need for further surveillance at Pensacola.
R. D. Murray, Surgeon M. H. S."

So the people were *allowed* to return home.

It was also witnessed at Port Tampa, the day that this official dispatch was sent to the head of the Quarantine Bureau at Washington, D. C.: "Port Tampa, Fla., August 30th, 1893—One case of yellow fever, clerk on dock. Ten days from possible exposure. Desire to keep Murray here. Jas. Y. Porter, State Health Officer." And: "Please authorize Murray to establish camp of detention near here, employing guards and food for about one hundred laborers. I will furnish houses and camp sites. James Y. Porter, S. H. O."

(Health Officer Porter was at one time in the employ of the Marine Hospital Service.)

Accordingly Surgeon Murray was ordered to remain; guards were employed; but "time" did not permit the establishment of a "camp," because the fact that a mistake had been made was found out two days after September 2d, when the Surgeon-General of Marine Hospital Service was informed that "The case is one of malarial fever. Cordon and other restrictions are removed. J. Y. Porter, State Health Officer."

"Port Tampa, September 2, 1893: "Restrictions removed. R. D. Murray, Surgeon Marine Hospital Service."

Apart from the privations, hardships and inconveniences caused by this unnecessary exile, the matter of *cost* to the people is one of grave consideration. In their appeal for help, dated August 23d, the Mayor of Brunswick and the Committee stated that "about four thousand people are left in the city;" which goes to show that from the 12th day of August, the day upon which the first case was announced, some six thousand persons had already left the city, and as they were not permitted to return until December, they were fully one hundred days away. Computing the expense for travelling, boarding, etc., at \$1.50 *per diem* for each person, the loss to Brunswick from this cause alone amounts to \$900,000.

This internal quarantine also produces very deplorable effects upon public morals. Commercial, as well as personal, intercourse being absolutely cut off, the food supply soon becomes exhausted, so that rich and poor alike are thrown upon the mercy of the Marine Hospital Service, and of some relief committee, from which they must obtain their daily bread. To the thriftless and lazy inhabitant, white or black, it furnishes the opportunity of leading a life of idleness upon the honest worker and genteel persons it produces a most degrading influence.

It has brought about the custom of begging for help upon the least pretext. Upon the appearance of a few cases of yellow fever, the assistance of the Government and of the

people is immediately invoked, and as such appeals are always bountifully responded to by the charitably disposed all over this country, money pours in in profusion. This opens the door to the worse kind of speculation.

The first appeal of this sort was made by the Howard Benevolent Association of Savannah during the epidemic of 1876. It was the first severe yellow fever epidemic which occurred after our Civil War, when Southern people were still struggling very hard to recuperate from their losses. The greater part of the inhabitants who remained in Savannah were very poor, and the distress among the working people was very great, because those who could have given them employment had left the city. The city's treasury was at low ebb, so that the members of this Association, comprising some of our best citizens, found it very necessary to minister to the wants of thousands of needy and suffering persons. When the funds of the society were about to be exhausted, the appeal was made in order to enable them to continue their charitable work to the end. Their appeal was responded to most liberally; money, provisions, medicine, clothing, etc., were sent from every section of the country. This enabled the Association and the city authorities to alleviate much of the suffering and distress, to employ hundreds of trained nurses to give all the medicine that was needed, to furnish champagne and sparkling waters, special foods and relishes—and thereby greatly reduce the *death roll*. There was a necessity for it at that time, and it proved to be a great blessing.

The same straightened condition still existed at the South in 1878, when New Orleans and the Mississippi Valley were visited by the scourge, and their people stricken by the tens of thousands. The distress was terrible. Here again the wonderful liberality of our people in helping the distressed proved a great blessing. It was not abused.

Hundreds of thousands of dollars were sent from every part of the world when Jacksonville had an epidemic of yellow fever in 1888, while she was cut off from all com-

mercial relation, traffic and travel, with the world by internal quarantine.

In Brunswick, last year, this appeal for help was made ten days after the appearance of the first case of yellow fever, when only one case of the fever existed within the city (Harris'), and fully one month before the disease was epidemic. In this instance, Brunswick was quarantined and her communications with the outside world were cut off on the very day that the news of Branham's illness was sent to the Surgeon-General of the Marine Service. This is the reason why her people were in distress. On August the 23d the daily papers published the following paragraphs:

"Appreciating the necessity of quick aid, the following message has been sent to Washington, addressed to Senators Gordon and Colquitt, Speaker Crisp, Hon. H. G. Turner, and all of the members of the Georgia delegation at Washington, D. C.:

"The situation here is distressing. We are shut off from the entire outside world. Starvation stares the poor people in the face. The refugees, ordinarily bread-winners, with their families, have left the city without means. About four thousand people are left in the city unable to procure supplies. Immediate need—provisions and money. Time is an important element. We appeal in behalf of a stricken people for immediate aid, and confidently rely upon the heart of a great American people and the Government to respond.

"THOS. W. LAMB, *Mayor*,

"C. P. GOODYEAR,

"JACOB E. DART,

"REV. EDWARD F. COOK,

"REV. J. A. THOMPSON,

"REV. FATHER HENNESSY,

"Relief Committee."

"August 23d, 1893."

While on the same day, the Board of Health, local physicians and Marine Hospital Service surgeons published this report:

THE HEALTH BOARD'S BULLETIN.

The report of health board and physicians to-day was as follows:

"Whereas unnecessary excitement prevails in the city of Brunswick,

Resolved, That, upon the daily reports of all the physicians in the city, this board announces that there is no yellow fever epidemic in the city and nothing in all of the reports so far made by physicians which indicates a probability of epidemic. There is one case in the city in addition to the two cases previously reported. The three cases have been thoroughly isolated, and should the disease assume an epidemic form this board will announce the fact promptly.

By order of the Board.

"HUGH BURFORD, *President*.

"The undersigned, visiting and resident physicians, concur in the statements contained in the above resolutions.

"H. BURFORD, M. D.,

VISITING PHYSICIANS.

"R. E. L. BURFORD, M. D.,

"I. CECIL LEGARE, M. D.,

"A. A. ROWLAND,

"JOHN GUITERAS, M. D.,

"J. A. BUTTS, M. D.

"H. R. CARTER, M. D.

"August 23d, 1893."

Immediately upon the receipt of the above appeal, Savannah's Benevolent Association sent one thousand dollars to the committee, and a list of subscription was started. Jacksonville sent one thousand dollars in cash and five hundred dollars of provisions. Soon after other cities in this and other States sent in their contributions of money, of provisions, etc., to the value of several thousand dollars, and had the great storm of August the 29th not occurred all the money, provisions, etc., sent to relieve the distress of sufferers along the coast would have gone to Brunswick.

The insensate "*dread*" of yellow fever which seems to possess every attaché, employé, or supporter of the Marine Hospital Service must be the result of the "*blind faith*" they have in the contagiousness of that disease! How could we otherwise account for the acts of the health officer of the city of Savannah (a former employé of the Marine Hospital Service), who, with the co-operation of the Mayor, had a strict quarantine enforced against Brunswick, because he had been informed of the existence of one case of yellow fever in a city fully one hundred miles away, and who or-

dered inspectors upon all incoming trains, and instructed them to arrest every person coming or suspected of coming from Brunswick!

Under these instructions, many were arrested, and the poor wretches were sent to and imprisoned in a place set apart as a small-pox pest-house, where they were detained ten days, and forced (under threat of being shot in one instance at least), to boil every stitch of clothing they had on. There is no other plausible idea upon which to excuse this outrage upon the personal liberty of our people. What else but *terror* could have impelled City Boards of Health, and the municipal authorities of almost every town and village in this and in other States to resort to some such barbarous measures against the people of Brunswick, Pensacola, and Tampa?

Ignorance of the *cause* and *nature* of yellow fever is evidently at the root of this evil, so little of the disease having occurred in this country since 1878. Medical students and the people can only get a glimpse of it through the *spectacles* of interested parties—viz: the partisans of *quarantine* and of *contagion*. Hence the huge proportions to which this American *bete noire* has grown. I have before me a card received a month ago, in which an ex-President of the American Public Health Association—who has never seen, and never will see a case of yellow fever in his section of the country. He has an idea that the germ of yellow fever is propagated in the same manner as that of typhoid fever, but desires information upon the subject. The President of the State Board of Health, at Nashville, Tenn., must have some peculiar theory also, since, in the belief that his beautiful city required protection against Brunswick, Pensacola, and Tampa, as soon as he heard that King Yellow Jack had *landed* there, he ordered quarantine to be enforced. It would take an *expert diagnostician* to find why the Board of Health of Tuscumbia county, Fla., sent the following telegram to the Chief of the Marine Service in Washington before ascertaining, beyond a doubt, that the cases reported were *yellow fever*:

"Pensacola, Fla., August 9th, 1894.—Two deaths from yellow fever; premises isolated and guarded, and effects destroyed; no cause for alarm.—Robt. W. Hargis, Pres. Board of Health, Tuscumbia Co., Fla."

Whatever their aim may have been, such a report was calculated to injure the city they represented; and they certainly succeeded in creating a *wild panic* in Pensacola. A few days later, August the 14th, a letter addressed "*to the public*," was published in that city, in relation to the above cases. Therein (page 61, 5th Annual Report of the State Board of Health of Florida), it will be seen that the State Health Officer, J. Y. Porter, M. D., assisted by Surgeons W. H. Carter and G. M. Magruder, of the United States Marine Hospital Service, made a thorough and impartial investigation of these cases, and reached the following conclusions:

"There is nothing in the clinical history or in the autopsy of Rev. Mr. Waite to justify a diagnosis of yellow fever. On the contrary, he seems to have died from acute gastro-enteritis, with marked abdominal symptoms."

"In the case of the child, Ellen Wood, the opinion is given that while the records of the case clinically and from the autopsy *does not give a clear history of yellow fever*, yet it contained sufficient evidence to justify the statement that the case was *suspicious*.—James Y. Porter, Health Officer of Florida."

Under these circumstances, what plausible excuse can the above Marine Hospital Surgeons give for establishing a "cordon," with armed guards, and for selecting a site for camp before other cases had occurred? Upon the arrival of Surgeon Murray, on the 16th, it was decided to remove the cordon. Could all this mischief have been thought of without the stimulus of the \$1,000,000 appropriation and other moneys, which are *now the inevitable accompaniments* of epidemics?

Verily, it would seem that in these days cases of sporadic yellow fever can no longer occur, and that the presence of the Marine Hospital Surgeons is all that is needed to annihilate the dreaded visitor!!

And what shall be said of the head of Florida's Health

Department who sent these telegrams to the Chief of the Marine Service?

"Port Tampa, August 30th, 1893—One case of yellow fever—clerk on docks. Ten days from possible infection; desire to keep Maury here," and "Please authorize Murray to establish camp of detention near here, employing guards and food for 100 laborers. I will furnish houses and camp sites. Joseph Y. Porter, State Health Officer."

On the same date, this was also sent him:

"Referring to Porter's telegram, one case here; origin not decided; 150 persons and three steamships in quarantine. R. D. Murray, Surgeon M. H. S."

From the same Fifth Annual Report, pp. 86, 87, 88, I cull:

"Philip Neuman, age 19, clerk on docks. First seen by State Health Officer on 28th August, 1893, 3:45 P. M. On Thursday (24th) had sick headache (neuralgia over eye). Thinks he had slight fever. Saturday (26th) had same thing repeated; took some medicine, but did not give up; after dinner laid down, and woke up with fever. To-day (28th) had slight chilly feeling 10 A. M. No decided rigor; pain in head, slight nausea; no vomiting, throbbing frontal headache over eyes. Examination: Skin cool and sweating; eyes clear, pulse full (90) and irregular; tongue white coated, tooth-marked and slightly pointed; bowels inclined to constipation; temperature, $101\frac{1}{2}^{\circ}$. 8 P. M., patient feeling better, had been asleep; no headache; nausea gone, skin warm, sweating; pulse low, fulness quick, 100; temperature, $102\frac{1}{2}$; eyes clear; tongue still coated."

Could there be a clearer case of malarial intermittent going into the remittent form?

"August 29th, 8:55 A. M.—Tongue cleaner; pulse, 90; temperature, $101\frac{4}{5}$; eyes slightly injected; *sweating, skin hot under sweat* (remission). 2:15 P. M.—Temperature, 103; pulse, 84; no sweat, more pain, eyes ache (fever at full height). 8 P. M.—Temperature, 99; pulse, 80 (remission). Midnight—Temperature, $100\frac{1}{2}$; pulse, 72, irregular; no albumen in urine.

30th, 6:30 A. M.—Pulse, 54; temperature, $100\frac{1}{5}$; eyes still ache; conjunctiva clearer; tongue furred; slept well; bowels opened (Dr. Murray's records). 3 P. M.—Pulse, 58; temperature, 101; feels better, tongue cleaning. 8 P. M. (Murray) Temperature, $100\frac{1}{5}$; pulse, 66; no albumen in urine.

31st, 9 A. M.—Feels decidedly better; *bowels moved, color brown*; pulse, 66; temperature, 99.

Sept. 1st, 10:30 A. M. (Murray)—Pulse, 76; temperature, 99; tongue cleaner, slept well.

Sept. 2d—Discharged well."

I cannot see where this case could have been mistaken for "yellow jack!" This telegram was sent to the head of the Quarantine Bureau:

"Port Tampa, Fla., Sept. 2d, 1893.—Suspicious case reported on 29th is a mistake. Will send clinical notes. Restrictions raised. J. Y. Porter, State H. O."

Yet upon this, not only were Port Tampa city and Port Tampa docks quarantined by an armed patrol under orders from the Chief of the Marine Service, but almost every city upon the coast and in the interior or Southern States quarantined against Port Tampa, as if a dreadful epidemic of smallpox had been raging there.

[TO BE CONTINUED NEXT MONTH.]

ART. IX.—**Cephalic Version versus Turn and Deliver by the Feet in Shoulder Presentation, Illustrated by a Case.**

By C. R. BURKS, M. D., of Sherwood, Va.

The case to which I wish to call attention is interesting, as having been one of difficult labor, in which an unusual method of delivery was attempted and succeeded. The case was one of shoulder presentation, and the treatment consisted in bringing the head of the child to the superior strait, instead of, as is almost universally recommended, making version by the feet. My attention was called to this plan for similar cases by a communication in a medical journal, the name of which I have forgotten, in which the author advocated resort to version by the head in all cases where the shoulder presents, even though the arm of the child be in the vagina.

The following history of the case I take from my notebook and memory:

One morning I was called by a midwife to see a case of

difficult labor, which she said she could not manage. On reaching the patient, I learned that she had been taken in labor some time the evening before (it was now about 10 A. M.) On examination, I found the uterus contracted spasmodically upon the child, the mother suffering a great deal of pain in consequence, whilst her condition had not been at all improved by whiskey freely given by the mid-wife. In making my examination, I found the arm in the vagina, considerably swollen; the shoulder at the superior strait; the head high up in the right iliac fossa, being readily felt through the abdominal walls; the back of the child towards the symphysis pubis. Having carefully diagnosed the position of the child, I determined to resort to version by the feet, but met with so much difficulty from the firm contraction of the uterus, together with the great irritability and restlessness of the patient, who rolled and struggled so violently when I attempted the operation—partly, no doubt, from the effects of the whiskey she had taken—that I was forced to desist. I then determined to try another plan of treatment, which consisted, as the first step, in carefully returning the arm into the cavity of the uterus, which was not very difficult, and then, with two fingers on the shoulder, I endeavored not so much to push it up as to slide it away from the superior strait, attempting, in fact, to imitate spontaneous version by causing the whole body of the child to revolve in the cavity of the uterus. This action upon the shoulder was very much facilitated by an external manipulation through the abdominal walls upon the head in the iliac fossa, which consisted in attempting to force it toward the superior strait. To my surprise, the shoulder readily yielded and ascended; the next minute, still continuing the process, the neck, and, shortly after, the side of the head were felt at the superior strait, and then, by a little more manipulation, the vertex was brought down in the left occipito-anterior position. The moment the head was placed in the proper position, the patient expressed herself completely relieved from the severe pain she had been suffering for hours. For a time the uterus ceased entirely to act, seemingly to take a rest. I renewed my stock of patience, determined to await results, and see what nature would do.

In fifteen or twenty minutes, pains commenced coming on; they were stimulated by a cup of strong coffee, and, in about an hour after, the child was born *alive*.

It may be proper, however, to state, as explaining, to a certain extent, the facility with which the operation was

performed, that the child was a small one, weighing only seven pounds; yet, on the other hand, it should be recollected that the smallness and mobility of the child are perhaps the most common cause of shoulder presentation, and hence, in such presentation, we may expect very generally to have small children to deal with, and moreover that version by the feet had been attempted, and had not been accomplished.

It might be urged that, as the child was not large, the case might have been left to nature, and labor terminated by spontaneous evolution. But what are the facts in the case? Ten hours had elapsed since the rupture of the membranes; and one of the earliest changes noticed when spontaneous evolution takes place had not yet occurred. I refer to the rotation of the presenting shoulder to the symphysis pubis, as preparatory to its engagement beneath the arch. Indeed, the spontaneous expulsion of the child in these cases is the exception, not the rule; and when it does happen, if we think for a moment on the mechanism of labor by which delivery is accomplished, we cannot fail to perceive that the mother must be exposed to all the dangers attending a long and painful labor, while the child is so powerfully compressed that death is the general result.

Velpeau, I think it is, gives statistics of one hundred and forty cases of spontaneous evolution, in which but twelve children were born alive. It is asserted by some that an error of diagnosis has existed in those cases where it is stated that version by the vertex has been successfully performed in shoulder presentations; that they have been really cases of head presentation, complicated by a descent of the arm. But this certainly was not so in the case to which I refer, for the head was distinctly felt in the right iliac fossa, through the abdominal walls, whilst the partial introduction of the hand into the cavity of the uterus, in the attempt to make version by the feet, enabled me perfectly to recognize the position of the child.

Again, it is said that the operation of version by the vertex is a very difficult one; that we cannot, without subject-

ing the mother to very great danger, push up the presenting part of the child, and search for the head; and then, having found it, that we cannot grasp the round and slippery occiput and bring it to the superior strait. This objection, in many cases, may be well founded, but the operation which I have related consisted, rather, in pushing the shoulder away from the superior strait, causing, thereby, the child to revolve in the cavity of the uterus. Of course, as soon as such a motion of rotation is communicated to it, by pushing away the shoulder, we must, of necessity, have some other part brought to the superior strait, which will be first the neck, then the head, and by a little manipulation the occiput can be brought down; and an impracticable case of labor can be thus changed, without, or with comparatively little, pain to the patient, and in a few minutes, to one of the most simple character; and not only thus changed, but effected without exposing the child to the great risk to which it is always liable when version by the feet is resorted to. Indeed, if an attempt to make version by the vertex should fail, without giving our patient any more pain, our hand being in the vagina, our fingers in the mouth of the uterus, we can most easily, if the case requires it, pass our hand upward, grasp the feet, and bring them down, and so terminate labor.

The Mistura Creasoti Compound (Hancock),

As now presented by the competent, conscientiously-careful manufacturing Pharmacist, Mr. John F. Hancock, of Baltimore, Md., seems to be a most desirable emulsion, the virtues of which are but partly told in his advertisement. As well stated by Dr. Whittaker, the *undeniable virtue* of creasote, in most cases of phthisis, "is chiefly, but not wholly, upon nutrittion." The etherization of the emulsion is a valuable factor, modifying the taste of the creasote, acting as an anodyne, so as to relieve cough, and promoting the digestion of oil by stimulating the pancreas to increased secretion. Literature, samples, etc., free on application. Messrs. W. P. Poythress & Co., Richmond, Va., is an authorized depot, from which orders in this section, for any of Mr. Hancock's excellent preparations can be promptly supplied.

Clinical Reports.

Perinephritic Abscess Rupturing into the Left Lung—Recovery.

By J. W. AUSTIN, M. D., Otterville, Va.

On March 10th, 1894, I was called to see Mrs. H. White, age 38, mother of three children; family history and previous health good: I found her suffering from constant nausea, occasional vomiting, coated tongue, bowels constipated, temperature 103° F., pulse 90, suffering pain and marked tenderness over the left portion of the pelvis, pain radiating as high up as the left kidney. Upon vaginal examination, I discovered a profuse leucorrhœal discharge, the parts very sensitive to the touch. I ordered the bowels to be moved with small doses of calomel, hot applications to the pelvis, hot vaginal douches, glycerin tampons.

On March 12th, I called to see her again. The pain and tenderness in the pelvic region were more marked; temperature and pulse about the same as at my previous visit. I ordered small doses of morphia.

On the 14th, I saw her again, and found that the pain and tenderness was not so marked over the pelvic region, but more so around the region of the left kidney—other symptoms remaining about the same.

After this date I called to see her daily, finding the pain and tenderness gradually growing less intense over the pelvic region and becoming more severe in the region of the left kidney. I now suspected perinephritic abscess. Finally a small boggy tumor could be felt over the seat of the left kidney. An operation was advised but refused.

On the morning of the 24th of March she began to expectorate a small amount of pus. And early on the morning of the 25th I was sent for in great haste. I found her expectorating large quantities of pus, her temperature lower, pain not so severe, and temperature less marked. I at once informed the family that it was the best thing that could have happened for her. The abscess which had formed in the adipose tissue around the kidney had ruptured into the left lung and was being drained through it. I put her on supporting treatment, she improved rapidly and made a complete recovery.

The proper treatment in such cases is, of course, operative, when the patient will submit to it. These abscesses may rupture into the pleura, lungs, abdominal cavity, colon, ex-

ternally in the lumbar region; may burrow into the sheath of the psoas muscle; I believe they most frequently rupture into the lungs, though some writers claim that they rupture most frequently externally in the lumbar region.

About the latter part of February this woman had her menses. During the time, the weather was extremely bad and she was right much exposed. From this time she began to complain of pain and tenderness in the pelvic region, which gradually grew worse, until she sought medical advice. I believe this was a case of perinephritic abscess, resulting from a localized pelvic cellulitis, caused by exposure to cold during the menstrual period.

Case of Gun-Shot Wound of Face and Neck.

By J. J. BISHOP, M. D., of Clear Fork, Va.

About the first of October, Sam, a negro boy 13 years of age, was accidentally shot with a bullet, discharged from a pistol, 32-calibre. The ball entered his lip to the left of his nose, and fractured the alveolar process of the superior maxillary bone. It knocked out five teeth, dislocated the hard palate, and passed beneath the angle of the superior maxilla on the right side, and lodged in the right side of the neck, in the superior carotid triangle, near the internal jugular vein and common and internal carotid arteries, causing inflammation and swelling of the throat. The swelling caused pressure on the pharynx and œsophagus to such an extent that deglutition was impossible for nearly a week, except a very small quantity of milk or water occasionally. The inflammation of the throat was treated by the application of cold water to the parts, and by the use of antiphlogistic remedies, and an occasional cathartic.

After the bones of the hard palate had been replaced, I removed the ball from the above-described locality. I cut through the superficial and deep fascia and sheaths of the muscles, taking the inner border of the sterno-mastoid muscle as a guide, by which I cut. After making a sufficient incision, I removed the ball with very little trouble. The operation was performed under strict antiseptic precautions, and the wound, after operation, was treated antiseptically.

The operation was not very painful, notwithstanding the fact that the patient was unable to have an anæsthetic administered to him, owing to heart trouble. He has entirely recovered from the accident.

Foreign Correspondence.

Mummies in Bremen—A Peculiar Property of a Room in the “Dom”—No Medical Schools in Bremen or Hamburg—New Eppendorf General Hospital in Hamburg—Dr. Schude’s Operation for Varicose Veins of Leg—Antitoxin Treatment of Diphtheria—Its Principle Established by Dr. Nuttall, formerly of Johns Hopkins—Sketch of the Method of Preparing the Antitoxin.

Mr. Editor,—I reached Germany on the 24th ultimo, and stopped for a short time in Bremen and Hamburg before coming to this city. One of the most interesting objects in Bremen is the “*Dom*,” an old church which has stood on that spot, counting the repairs and rebuildings, for over one thousand years. There are many old paintings and sculptures in the building which have every evidence of antiquity, but a small room connected with the church *possesses the peculiar properties of preserving from decay the bodies of animals.* Every year the bodies of animals, such as dogs, cats, birds, etc., are placed therein without any preparation, and they gradually become desiccated and keep indefinitely.

There are twelve or fourteen human mummies in this room, each lying on his or her back in a sort of trough, perfectly naked with the exception of a canvas cloth over the pelvis, all the tissues apparently in a perfect state of preservation. The hair is gone from all, but the skin is whole, only hard and dry, very different in appearance from the Egyptian mummies, but there is considerable difference in their ages, the oldest of these being about four hundred years old and the youngest something over one hundred.

According to the sexton, this peculiar property of the chamber was accidentally discovered over four hundred years ago, when in repairing the church, a workman fell and broke his neck. His body was found in this chamber and in some way lost sight of for a long time, when it was found in a perfect state of preservation. This was the first mummy, and remains there yet, the others having been added at different periods later on.

There are *no medical schools in Bremen or Hamburg*, but in the latter, which is a city of over half a million inhabitants, there are some excellent hospitals and some fine medical men.

The *New Eßendorf General Hospital* has a capacity of one thousand and eight hundred beds, and is constructed on the pavilion plan, covering some five acres of land. The appointment is about all that could be desired of a modern hospital, including an operating room, well arranged for light, and provided with all the appliances for aseptic and antiseptic operations. Dr. Schude, a former pupil of Volkmann, the oberarzt or chief physician and surgeon, courteously took me around with him as he visited his cases, which were numerous and varied.

I saw *Dr. Schude* perform an operation, *original with himself*, for the radical cure of varicose veins of the lower extremity, which I think deserves especial notice. He makes an incision from four to six inches below the knee, entirely around the leg, as if he were going to make a circular amputation, dividing skin, fascia, and *all* the superficial veins down to the fascia covering the muscles. The cut extremities of the veins, above and below, are then tied with catgut and the wound closed. He informed me that he had performed this operation thirty or forty times, in every case without exception with a satisfactory result.

The *treatment of diphtheria with antitoxin* is still a subject of great interest here, and it would seem to an impartial observer that the efficacy of the remedy has been established beyond successful controversy. While public opinion is divided between Behring and Roux as to which is the real discoverer of the remedy, it would seem that the man who first established the principle of this particular line of treatment is Dr. Nuttall, an American, formerly an assistant of Professor Welch, at Johns Hopkins, now attached to the Hygienic Institute in this city.

The results of his experiments and the principles thereby established, were presented in a thesis and published about

four years ago, when he applied for his degree at Göttingen University

The following is a rough sketch of the method of preparing the antitoxin and its use in diphtheria:

1. *Preparation of the toxin.*—A pure bouillon culture of the bacillus diphtheria is made, its growth being forced or hastened by maintaining a temperature of 37° C., kept up for eight days in the German method, three weeks by the French method, in which Fernbach flasks are used which expose a large surface of the culture to the air. The strength of the toxin is intensified by thus hastening the growth of the bacillus.

2. *Separation of the toxin.*—This is done by passing the culture through a Pasteur or Chamberland filter, the toxin passing through and leaving the bacillus. The unit of strength is obtained by injecting guinea-pigs; one-tenth of a c. c. should kill a guinea-pig of 500 grammes weight in from 24 to 36 hours, of diphtheritic paralysis. Here the cultures are not filtered, but simply heated to 70° C. for half an hour, which kills the bacillus, and then preserved in sterilized flasks with a layer of paraffin on top.

3. *Immunizing the animal.*—The horse has thus far been found to be the best animal for making the antitoxin serum. One-half a c. c. of the toxin is injected subcutaneously into the horse and the effects carefully watched. The fever, œdema, and loss of appetite which result, usually pass off in about a week, when the second injection, this time one c. c., is given and the same precautions taken. The injections are continued at intervals of about a week, depending on the reaction produced, increasing the quantity to $1\frac{1}{2}$, $2\frac{1}{2}$, 5, 10, 15, 20, 25, 30, 35, 45, 50, 60, 100 c. c. until at the end of three months usually, the animal can stand a dose of 250 c. c. without reaction. He is then in proper condition for obtaining serum.

4. *Preparation of the serum (which contains the antitoxin).*—About six litres of blood are taken from the jugular vein about once a month. The blood is allowed to coagulate and the serum separated simply by siphoning, and if kept in a

cool place will keep for six or eight months. Aronson, of this city, adds tricresol in the proportion of six-tenths of one per cent., in order to preserve it. The horse is kept immunized by injections of 60 c. c. every other day, except that no injection is given for five days preceding a bleeding. A strong serum is made by *intra-venous* injection of 250 to 300 c. c. just after a bleeding, to be repeated as may be necessary until there is no longer reaction. This method is very dangerous to the horse.

5. *Administration*.—The serum is given to the patient subcutaneously, under the skin of the abdomen in doses of 20 to 40 c. c. to a child five or six years old, repeated, if necessary, in 24 or 48 hours. No bad effects result from very large doses. The good effects are apparent in less than twelve hours, consisting in lowered temperature, (when it has been elevated), improved pulse, and the general condition of the patient shows improvement.

I am indebted to J. J. Kinyorn, M. H. S., for material assistance in the collection of the facts as given concerning the preparation of this remedy for diphtheria, especially as to the French method, Dr. Kinyoun having been with Roux in Paris, where every opportunity was given him to learn the methods employed.

Next time I will write something of the surgeons of this city.

Very sincerely yours,

GEORGE TULLY VAUGHAN, M. D.,

Passed Assistant Surgeon M. H. S.

Berlin, November 10th, 1894.

How Like Some Surgeons' Reports.

Magistrate: "Well, Doctor, how is it with the fellow who was shot to day?"

Doctor: "Well, sir, one of the wounds is absolutely fatal: both the others can be cured."

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

Note on Retinoscopy as an Aid in the Early Determination of Myopia.

Mr. P., age 23, student, noticed a year before he came to my office that after forced reading the words would blur; he would rest his eyes awhile, the blurring would disappear, to re-appear "as soon as his eyes got tired." About the same time there appeared congestion of conjunctiva; his pupils from time to time would dilate ad maximum and remain a time, more or less long, in this condition. He consulted his oculist, who, on examination of the eyes, found hyperopic astigmatism, the hyperopia being in amount $\frac{1}{4}$ to $\frac{1}{2}$ D, the astigmatism, ax. 90° , $\frac{1}{2}$ to $\frac{3}{4}$ D. Glasses were prescribed, correcting the astigmatism. These glasses, however, gave relief only for moderate use of the eyes—forced use, with or without the glasses, caused the reappearance of the old symptoms. The conjunctival symptoms became so annoying that repeated applications of nitrate of silver were had recourse to that temporary relief from the congestive condition might be obtained. During the year the glasses were changed three or four times; the first glass given was O. D. and O. S. $+ \frac{1}{2}$ D cyl. ax. 90° , with which $V = \frac{1}{18}$. At the end of a year the symptoms were practically the same as at the beginning.

Examination of the eyes revealed the following condition of affairs: V. O. D. and O. S. practically normal; some of the letters in $\frac{1}{16}$ (S.), however, could not be distinguished with that quickness and accuracy which one finds as characteristic of the perfect eye. $+ \frac{1}{2}$ D cyl. ax. 90° O. D. and O. S. clears this slight imperfection. Conjunctiva of the lids red, showing considerable congestion. The lids feel rough to the eyeball; there is, however, no conjunctivitis. Homatropia used for dilation of the pupil. When the ciliary muscle has been quieted $V = \frac{1}{80}$ to $\frac{1}{33}$; this $+ \frac{1}{4}$ D sph. c. $+ \frac{1}{2}$ D cyl. ax. 90° brings to $\frac{1}{8}$ accurately. Patient refuses a myopic cylinder for any meridian. Examination shows clear media and a fundus in which there are no visible retinal changes. *The macular arteries and veins,*

however, are tortuous, so much so as to attract attention; no light reflexes along the vessels; no demonstrable changes at the disk borders. The retinal veins may be a trifle dilated. Examined by retinoscopy we find that the *cornea + lens cortex* gives the following refraction for the eye: $+ \frac{1}{4}$ D cyl. ax. 90° , c. $- \frac{1}{4}$ D cyl. ax. 180° ; while the *lens nucleus* gives $+ \frac{1}{4}$ D sph. c. $+ \frac{1}{2}$ D cyl. ax. 90° . Here there is, then, as shown by retinoscopy, *myopia of the cornea + lens cortex for the horizontal meridian*. The patient, however, will not accept for this meridian a $- \frac{1}{4}$ D cyl. lens. He says that his vision with this lens is better when the axis is 180° than when it is 90° ; but he sees worse with this lens at 180° , when the glass $+ \frac{1}{4}$ D sph. c. $+ \frac{1}{2}$ D cyl. ax. 90° (correction for lens nucleus) is held before the eye, than he does without it. And why? Because the minus cylinder called for by the cornea is opposed to the plus cylinder called for by the *lens nucleus*; and it is the lens nucleus which is used for distinct vision. The lens cortex beyond the nucleus peripherally, together with its covering cornea, are by the iris shut out in the ordinary vision.

There is one other point to be noticed just here. Mr. P.'s mother and two sisters are myopic, while of these three persons two of them have myopic astigmatism, axis 180° . Moreover, Mr. P.'s father and every other child has night-blindness; while Mr. P.'s mother and the rest of the children see well at night. Among the brothers are twins, one has night-blindness, one has not.

The point of these observations is this, that inheritance furnishes a marked predisposition to acquired myopia. By acquired myopia, I mean that form of myopia which in youth and early puberty is produced in an eye that has been at one time more or less hyperopic. In the case of Mr. P. the cornea for the horizontal meridian, together with peripheral parts of the lens, shows a myopic refraction when measured by retinoscopy—and this, although the nucleus + the cortical part of the lens shows a hyperopic refraction. The interpretation of this mixed refractive condition in Mr. P.'s case is, that under the continuous strain of close work, and even though he is wearing glasses that correct the nuclear refraction, his eyes are passing from a hyperopic to a myopic condition. *This case shows that in eyes in which the myopic tendency from inheritance exists, correction of the re-*

fractive error is not sufficient, in the presence of excessive close work, to prevent the development of myopia.

That the correction of the refractive error in these cases is called for no one will deny; but that the use of glasses will prevent all myopia, in those cases where the myopic tendency from inheritance exists, has not been proven. Corrective glasses are, doubtless, valuable mechanical aids in the prevention of the part the ciliary muscle plays in the further development of an inherited tendency; but that this tendency may not attain its more or less complete expression depends upon more things than excessive ciliary action.

In the case of Mr. P., by no other means than retinoscopy could the probable approach of a myopic condition of the eye be prognosticated with the same degree of probability. With the Javal-Schiötz ophthalmometer, in the presence of a hyperopic lens nucleus, there would exist a considerable degree of doubt as to the true refractive condition of the eye. That myopia existed in a large proportion of Mr. P.'s family makes it our duty to watch for its development in the other members who "complain of their eyes." The condition of the macular arteries and veins gives evidence of trouble in the posterior part of the eye—and I may add here that a tortuous (to a greater or less degree) condition of the macular arteries and veins is, in my experience, not uncommonly found in eyes undergoing early myopic changes. There are in the case of Mr. P., however, no accompanying visible changes in the fundus to allow of an interpretation of this condition of the macular vessels. The subjective sensations are suspicious, but are similar to those found in other troubles of the eye. It would seem, then, that retinoscopy is a valuable adjuvant in the early determination of myopia.

Th Nurse's Throat—Examine Lymphatic Areas of Throat of Nurse.

In the spring of 1894, I removed from the nose of Miss C. a septal ridge. As the weather was warm and clear, I gave

her no special directions in regard to the home treatment of her nose. She was to see me from day to day.

Four or five days after the operation I was asked to call at the house of Miss C. She was feeling too badly to come to my office. I found that from some source there had been infection of the naso-pharyngeal lymphatic system. The tonsils and pharyngeal lymph tissues were inflamed, swollen, and to some extent covered with a grayish-white deposit. The patient had considerable fever. The usual precautions and care had been taken with the case.

The complication was an unpleasant one, and unexpected, inasmuch as there were in the patient's throat prior to the operation no visibly diseased tissues of such a character as to suggest the probability of such a sequence to so simple an operation. Miss C. recovered as one does, from an attack of exudative tonsillitis.

It was not until some time later that I discovered the probable source of infection. Miss C. had an intimate girl friend visiting her at the time of the operation. This young lady had diseased tonsils, and was subject to frequently recurrent attacks of inflammation in them. The two young ladies spent much of the time together in the same room during the visit. Here was, in all probability, the source of the infection.

There is nothing new in the above observation, and a report of it is made only as a text for a few remarks upon the *importance of having carefully examined the lymphatic areas of the throat of all people who have in their charge young children.*

No person having enlarged tonsils, either faucial, lingual or naso-pharyngeal, should be employed as a nurse. It is in childhood that the throat requires the greatest care. It is in childhood that come about those pathological changes in the naso-pharyngeal lymph system which result later in life in impaired hearing. I think one would be not far from the truth in saying that 90 per cent. or more of all cases of impaired hearing take their beginning from inflammatory changes in the naso-pharyngeal lymph system during the first ten or twelve years of life. It is during the early years of childhood that the so-called adenoid (include

in this all the tonsils) hypertrophies take place. Why it is that permanent adenoid hypertrophy rarely takes place after the late teens I do not know; some law in the human economy decides this—but the fact remains. It is in early childhood that it is decided whether the adenoid basis of the mucous membrane of the naso-pharynx, Eustachian tube and middle ear are capable of resisting hypertrophic changes, the results of external influences, to such a degree as to keep free the Eustachian tube and to prevent retraction of the drum head and the other intra-aural inflammatory changes. The inherited resistance to these changes varies with the individual. The recognition of the importance of a healthy throat in children is the physician's duty. In children "hypertrophied faucial tonsils" means, as a rule, hypertrophied naso-pharyngeal tonsil; hypertrophied naso-pharyngeal tonsil means, in a large per cent. of the cases, adhesions to the Eustachian tube mouths; means repeated inflammatory attacks of the Eustachian tube lining; means, sooner or later, impaired hearing. "Hypertrophied tonsils" mean diseased tonsils, in the crypts of which are germs ready to produce active tonsillar inflammation as often as the conditions are favorable. A person with diseased tonsils carries always in the tonsils themselves two of the promoters of inflammation, viz.: tissue whose vitality is lowered, and inflammatory germs. A slight exposure on a raw, damp day may strike the match already applied to the wood soaked with oil. When one recognizes the effect that impaired hearing has upon the life of the individual, and through the individual upon the State, and when one recognizes the hopelessness of the endeavors to restore hearing lost through a diseased naso-pharynx in childhood, one begins to recognize the importance of keeping as healthy as possible the throats of young children. That there is an element of contagiousness in the expired air passing over inflamed tonsils is now recognized. The fact that there is also an element of contagiousness in the expired air, passing through a pharynx with chronically

hypertrophied tonsils, is not so generally recognized. The fact remains, however.

In a large per cent. of the cases of hypertrophy of the pharyngeal lymph system, the original cause seems to be an inherited lack of resistance to congestion changes, the results of sudden variations in the temperature and moisture. These changes are, however, often greatly increased in severity, where they already existed; and where they do not exist, are frequently brought about through acute inflammations, whose severity in turn is heightened by the presence in the throat of the elements of contagion. Parents with diseased tonsils thus carry with them a constant menace to the integrity of the superficial lymphatics of their children's throats, and thus a constant menace to their children's hearing powers.

It is not our intention here to answer the observation so often questioningly made, "Doctor, all of my children have enlarged tonsils?" Apart from inherited tendencies and climatic influences, it must often be the case that the mother is unconsciously directly responsible for diseased tonsils in her children; for she has diseased tonsils, and in her constant communication with her young children the air that she breathes necessarily infects, to a greater or less degree, that breathed by her children. In young children, the throat lymphatic system responds to influences that fail to have effect upon the adult throat. It is of importance, then, that the throat in childhood should, as carefully as possible, be guarded from the possibilities of contagion.

Let us say, in conclusion:—To examine the throats of all mothers with young children, and to insist upon treatment whenever disease of the naso-pharyngeal lymph system is found is a precaution, the observing of which will be well worth the while of the family physician:—To accept as nurse for young children no person who has not a physician's certificate to the effect that the applicant's throat is in a healthy condition, is a precaution well worth every parent's consideration.

Cataract Extraction as an Office Operation.

Antisepsis has shorn the operation for cataract extraction of many of its uncertainties. Rarely does it happen, now-a-days, in the hands of an operator who understands the anatomy of the eye, and who pays due regard to the laws of cleanliness, that an eye, operated upon for cataract, does not recover more or less vision as the result of the operation—provided, of course, there does not exist in the eye some pathological condition to determine permanent loss of sight. Thus it has come about that the question of the advisability of extracting an opaque lens has been settled; and the minor questions as to the methods by which the greatest amount of useful vision may be obtained are now the only ones left for solution. Before the laws of antisepsis were well understood, and while there existed many doubts as to “what an eye was going to do” after the lens had been extracted, patients were, we doubt not, confined too closely to their beds in dark rooms, and for too long a time. These ophthalmologists were, however, wise unto the level of their generation. They did what they could to restore sight. They knew that rest was favorable to the healing of wounds; and they were wise in giving the operated eye as complete rest as possible. They bandaged both eyes, and kept the patient in bed, that there might be the least possible movement of the eye-balls, and they excluded the light that there might be functional rest of the retina.

Now-a-days, some operators tell us that cataract extraction is an office operation; others, that they bandage only the operated eye, leaving the other free, and do not insist upon rest in bed. In both cases have they abandoned the wisdom of the ancient way. Certainly, cataract extraction is an office operation! Any oculist can do the operation in his office, can send his patient any distance home, furnishing him with a novel to read on the journey. None of these things are physical impossibilities, but in doing them the patient's best interests are not consulted. Eyesight is precious. It is the operator's duty to take every precaution

not only to restore vision, but to obtain the best vision possible. The temporary inconvenience of a few days in bed in a moderately lighted room, with both eyes bandaged, is not for a moment to be considered in the presence of the possibility of a prolapse of the iris from allowing the patient to wander about as he pleases. We can but admit that the eye at rest is in the best position for obtaining quick and correct adaptation of the corneal wound. Then why select to leave one eye uncovered, for the patient's use, when we know that every movement made by the uncovered eye is accompanied by an exactly similar movement of the covered eye. There is an additional advantage in selecting an evenly lighted room, or in selecting, for the first few days, for the eyes, some covering impervious to light, inasmuch as there is a tendency, more or less well-marked, for the eyes to turn toward the source of the brightest light. While it is true that many eyes operated on for cataract would heal, with a greater or less degree of vision, were the bandage left off of both eyes from the moment of extraction, and the patient allowed to pursue, as best he might, his usual avocation, whatever that might be, still no one would advise that cataract cases be thus treated. In the treatment of these cases, the question is not, as some seem to think, what is the least inconvenience to which we can put our patient; but, convenience or inconvenience, how can we obtain the highest degree of vision, how can we best avoid the risks to which an eye is subjected after the lens has been extracted? Because our improved methods have lessened the dangers of cataract extraction, it is none the less our duty to take every reasonable precaution. We grant that the lids make the best bandage for the eye, but that movements of the ball produce no effect on the degree of patency of the corneal wound we deny.

Any one who will, immediately after a cataract extraction, before the dressing is applied to the lids, make the patient look down and then up, and at the same time will watch the corneal wound and see the gaping that the upward movement of the eye often causes, will, it seems to me,

be satisfied that motion is not conducive to healing of a wound of the cornea of an eye from which a cataract has just been extracted. Or, again, any one who has watched, in those cases of cataract extraction when the corneal wound refuses to close for the first few days, the aqueous escape between the lips of the wound as the eye is made to change its position, will not fail to recognize that change of position of the eye has its effect on the corneal wound, and to see the importance of complete rest as possible until the corneal wound has closed.

In conclusion, we would add, that other things being equal, the operator who takes for his cataract cases after operation the greatest precaution, is the one whose case-book shows the fewest avoidable errors, the highest per cent. of successes, and, among his successes, the highest average vision.

Note Upon the Use, Among the Negroes, of Urine in Inflammatory Affections of the Eye and Throat.

In September, 1894, James B., plasterer, mulatto, presented himself at the Clinic with a severe burn of the lower part of the cornea and adjacent conjunctiva of the right eye. Directions for treatment were given him. He was told to return to the Clinic the following day. He was however, absent nearly a week, and when he returned, the right cornea had ruptured, and there was a severe case of gonorrhœal ophthalmia affecting both eyes. After some questioning, I found out that he had a case of "the running range" (the negro term for gonorrhœa.) He then told me that his negro friends had kept insisting upon his washing his eyes in "his water." The result of these applications is above stated.

This case led me to make enquiries among the negroes coming to the Clinic in regard to the use of human urine as a remedy. I found that knowledge of the fact that it was used for "sore eyes and sore throat" was widely spread among them. I did not find among the older negroes any who had not used it, or were not acquainted with its use for these purposes. It seems to be among them one of the standard remedies. For "sore throat," they urinate in their hand and this they carry to their mouth and then gar-

gle their throat, spitting out the urine thus used. For "cold in the chest," they drink a handful of urine. For all forms of "sore eyes," they bathe their eyes in their urine, freshly made. To prevent their faces "from chapping," they wash the face with their urine. It is also used for chapped hands and to soften the skin of the hands.

This widely spread use, among the negro race, of their urine as an eye-wash, accounts for the relative frequency of *gonorrhæal ophthalmia* in that race—a fact I had noticed, but had heretofore attributed to their general neglect of the laws of cleanliness.

That urine is used as a remedial agent among the negroes has been commented upon often by the Southern doctors. The case, upon which these remarks are founded, and which led to the enquiries above mentioned, bears, however, a sufficient lesson, viz.: Negroes having "sore eyes," should be warned not to use their urine as an eye-wash.

Relative Value of Mercury and Iodide of Potash in the Treatment of Ocular Syphilis.

Chibret says: 1st. In ocular syphilis, mercury alone almost always produces results; iodide alone never;

2d. In general syphilis, mercury alone almost always produces results and upon all the manifestations of syphilis; iodide alone only upon certain manifestations and in an inconstant manner;

3d. In both ocular and general syphilis, mercury alone can serve as a diagnostic test;

4th. Mercury, the only specific for syphilis, is, at the same time, a systemic poison, affecting especially the nervous system;

5th. Potassium iodide, as a counter-poison to mercury, is frequently indicated either to eliminate or to cause toleration of mercury;

6th. The iodide acts on the lymphatic and the rheumatic manifestations;

7th. "Syphilis grave" is affected only by mercury alone, or in combination with the iodide. (*Annales d'Oculistique.*)

Department of General Surgery.

Conducted by STUART MCGUIRE, M. D., RICHMOND, VA.

One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital;
Professor of Principles of Surgery in the University College of Medicine, Richmond, Va

Clinical Advantages of Richmond.

During the recent session of the Medical Society of Virginia, the two medical schools located in Richmond invited the members to attend their surgical clinics.

The number and diversity of the cases presented testified to the abundance of the clinical material at their disposal, and the advantages which the city offers for practical teaching.

The following is a list of the operations performed with the result; and the uniform success, which is reported, can but be gratifying to the friends of both institutions:

UNIVERSITY COLLEGE OF MEDICINE.

I. Abdominal hysterectomy for myomatous uterus, by Dr. Joseph Price. Recovery.

II. Laparotomy for double pyosalpinx, by Dr. Hunter McGuire. Recovery.

III. Supra-pubic cystotomy and formation of artificial urethra for enlarged prostate and chronic cystitis, by Dr. Hunter McGuire. Recovery.

IV. Tenotomy for double talipes varus, by Dr. Hunter McGuire. Good result.

V. Enucleation of eye-ball for injury, by Dr. Jos. A. White. Recovery.

VI. Extraction of a hypermature cataract, by Dr. Jos. A. White. Restoration of sight.

VII. Extraction of a cataract with iridectomy, by Dr. Jos. A. White. Restoration of sight.

VIII. Trachoma treated with Knapps' roller forceps, by Dr. Jos. A. White. Good result.

IX. Tenotomy of external rectus and shortening of internal rectus for divergent squint, by Dr. Jos. A. White. Good result.

MEDICAL COLLEGE OF VIRGINIA.

I. Abdominal hysterectomy for myomatous uterus, by Dr. Howard A. Kelly. Recovery.

II. Catheterization of ureters for hydronephrosis due to obstruction from calculi, by Dr. Howard A. Kelley.

III. Nephrorrhaphy for movable kidney, by George Ben. Johnston. Recovery.

IV. Abdominal hysterectomy for myomatous uterus, by Dr. J. W. Long. Recovery.

V. Enucleation of eye-ball, by Dr. Charles M. Shields. Recovery.

Preparation of Cat-Gut Ligatures.

The animal ligature, which has revolutionized the method of treating wounds, was first employed by Dr. Physick, of Philadelphia, in 1814, who used little strips of chamois leather which had been rolled upon a slab until they were hard and round; but it was not until Sir Joseph Lister definitely introduced cat-gut that absorbable ligatures were generally adopted by the profession.

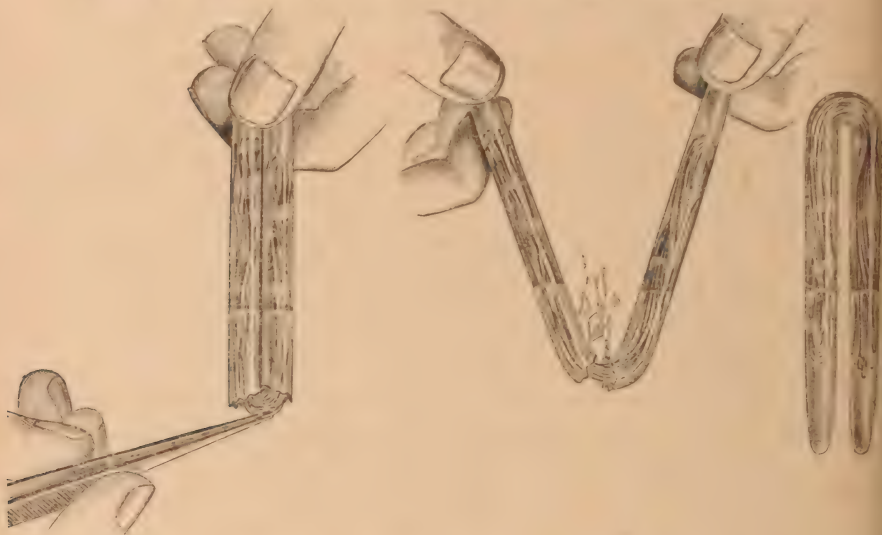
Experience soon proved that it was extremely difficult to sterilize this material, as it is made from the sub-mucosa of the intestines of sheep, and is therefore infected with germs from its very source, and also contains a large proportion of fat.

The difficulties encountered in the sterilization of cat-gut are that maceration in an aqueous solution for any length of time softens it, and that the action of chemical antiseptics, such as bichloride of mercury or carbolic acid, weakens its tensile strength to such an extent as to render it unfit for use.

Almost every medical journal contains a description of some new and infallible method by which cat-gut can be rendered aseptic, but the very number and diversity of the suggestions show that success has not yet been reached. In all of the most recent experiments heat has been the germicide used, and it is probable that in this direction ultimate perfection will be secured.

The application of dry heat has proved tedious and uncertain, and hence boiling in alcohol or else oil are the processes most in vogue.

Few of the preparations of aseptic cat-gut found on the market are reliable; but a product of the laboratory of the J. Ellwood Lee Co. is so ingenious that it deserves mention. At the suggestion of Dr. Fowler they sterilized cat gut by repeated boiling in alcohol under pressure, and then enclosed it in a glass tube filled with absolute alcohol. The boiling is again repeated and the tube hermetically sealed.



The following advantages are claimed for this method:

1. The cat-gut is rendered absolutely aseptic after the handling in the preparation has ceased.
2. It is hermetically sealed against all infection.
3. It is cut into suitable lengths for use.
4. The surgeon may resterilize the gut, if he desires, by placing it in an oven heated to 185 degrees Fahrenheit.

McBurney's New Method of Incision in the Abdominal Wall in Selected Cases of Appendicitis.

In the July number of the *Annals of Surgery*, Dr. McBurney publishes a valuable and interesting paper on appendicitis,

in which he describes a new method of opening the abdominal cavity by which the danger of hernia is greatly lessened. Until recent years, the author had made use of an incision parallel with and near the right edge of the rectus muscle. The disadvantage of this incision is that the appendix is still further to the right and the operator is forced to work beneath the overhanging shelf formed by the outer plane of the abdominal wall.

Dr. McBurney describes his new incision briefly as follows: An oblique incision in the skin about four inches long is made in the usual position and about one inch from the iliac spine. The external oblique muscle and aponeurosis are divided in the same line, *not cutting any fibres across*. After retracting the edges of the wound strongly, the internal oblique muscle is seen, the fibres of which cross somewhat obliquely the wound already made. With a blunt instrument, such as Kocher's director, the fibres of the internal oblique and transversalis muscles can be separated without cutting more than an occasional fibre, in a line parallel with their course—this is nearly at right angles to the incision in the external oblique aponeurosis. The transversalis fascia and peritoneum are then divided. McBurney states that the drawback to this method of operating depends upon the absolute necessity for two pairs of retractors, the one for the first incision, the other for the opening made beneath and at right angles to it. He does not think it especially suitable for suppurating cases because of the somewhat limited space. He says: "It is not an easy operation, and should not be attempted by those who are unfamiliar with operations upon the appendix, and I again call attention to the fact that in performing it, two extra assistants will be occupied part of the time with the retractors."

When the operation is completed, the gridiron-like arrangement of the muscular and tendonous fibres, to which the abdomen largely owes its strength, is restored almost as completely as if no operation had been performed.

McBurney has used this method in four cases. Its ad-

vantages are obvious, and it may prove of great value in lessening the large number of ventral herniæ that are prone to follow operations for appendicitis.

In the *Kansas City Medical Index* for October, Dr. J. E. Sumner reports two cases in which the incision was used with satisfaction. He calls attention to the fact that the number of retractors can be reduced to two, and only one extra assistant required, if, so soon as the first incision is made, two temporary sutures are introduced through the edges of the wound, about its middle, and each introduced, tightened and tied—the one through the skin over the left rectus muscle, the other in the same line through the skin covering the right gluteus maximus muscle. This causes wide separation of the edges of the incision and does away with the inconvenience of the hands and retractors of an extra assistant.

Aluminium Corsets Versus the Plaster Jacket.

In an exceedingly clever and well-written paper in the November number of the *New England Medical Monthly*, Dr. Frank L. R. Tetamore, of New York, advocates treating lateral and antero-posterior curvatures of the spine with corsets of *papier maché*, sole leather or aluminium. These jackets are made from a cast of the patient's back, which is obtained in the following manner: The patient, if a child, is chloroformed, and then placed face downward on a flat table, with the arms slightly extended, and the chest and chin resting on a small pillow; the pressure on the bodies of the vertebræ is thus relieved, and the spinal column is in a natural position. The back is bared, and a thin piece of muslin, wet with warm water, is evenly laid over. The mould should extend well up on the neck and down on the hips. Water at about a temperature of 90° F. is put in a large bowl, fine plaster of Paris is stirred in until it is of the consistency of thick cream. The mixture is spread on the back evenly until it is covered, about one inch in thickness. When hard the mould can easily be lifted off. This mould is then painted over with a solution of soap after removing

the cloth. Plaster is mixed in same way as before, but in larger quantities, the mould filled up and allowed to dry hard before it is separated. The mould can be broken if it does not separate easily. The cast is now thoroughly dried by being put in a warm place.

To make the shell of *papier maché*, first draw heavy canton flannel or duck over the cast, making it fit smoothly. A glue mixture is made by dissolving white glue in sufficient water to make a liquid, or use Page's liquid glue thinned down. Stir in about one-quarter the weight of white oxide of zinc.

Cut manilla paper about one inch wide, cover on one side with the glue and apply on the back, covering each layer until it is about eight-ply, being careful to lay the paper smooth. Cover with thin muslin, let dry three or four days, remove and fit to the back, the patient taking the same position as when the cast was made. A corset is made to fit accurately, keeping the shell in position, and straps are brought over the shoulders to keep them back against the shell.

The leather shell is made by taking sole leather, shaving it off, and cutting it to the size required. Soak well in water for two or three hours, then mould to the cast, and retain in place with bandages; let dry for two or three days, then fit the same as *papier maché*.

The most useful, the lightest, the most durable and comfortable, is the *aluminium shell*. This is made by cutting sheets of the metal into strips about three-quarters of an inch wide, being previously softened by annealing. These strips are woven together over the cast, leaving meshes or openings about one-quarter of an inch square. After this is formed to the cast, the metal is riveted together and then fitted to the back. After being trimmed off, it is bound with thin metal or leather. It can be stiffened, if necessary, with steel.

Undoubtedly, these corsets have their place in the treatment of spinal diseases, and may often be used with advan-

tage, and the writer deserves credit for the lucid manner in which he has described the method of their manufacture.

Dr. Tetamore's enthusiasm leads him too far, however, when he makes the statements (1), that a physician should not undertake to treat a case of spinal curvature unless he understands the application of mechanical appliances, and knows how to make them; (2), that the suspension apparatus now used for getting extension is the most cruel instrument that can be employed, and no benefit is ever derived from its use; and (3), that the plaster-jacket now in use should become a thing of the past.

Many cases of Potts' disease and lateral curvature are unable to consult a specialist, or to bear the expense of a leather or aluminium corset, and must therefore depend on their local physician to treat them.

A knowledge of mechanics and the details of a workshop should not be underrated; but to require it of an ordinary practitioner, otherwise competent to apply a plaster-cast, would be equally absurd, as the instance in which Professor Sharpey said, "You may as well require of a medical student a knowledge of the whole art of cutlery before you set him to dissect."

The recognized principles upon which the treatment of caries of the spine is based is physiological rest to prevent extension of the disease, and immobilization to give nature a chance to repair the damage done. Both of these conditions are fulfilled by extension, by suspension, and fixation by Sayre's plaster jacket.

Extension should only be carried to the point of comfort, and if it be "cruel and harmful," it is because it is wrongfully used. The plaster-jacket secures the most perfect immobilization, and if it be "uncomfortable and painful," it is because it is unskillfully applied.

The corsets of *papier maché*, leather, woven wire, and aluminium, are valuable in slight incipient cases, and in cases where ankylosis has already taken place, but they can never supplant the plaster-paris jacket.

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
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Epitheliomata Developing Upon an Eczematous Base.

The following case illustrates the fact, now well established, that long continued mechanical or chemical irritation is capable of producing a new growth of more or less malignancy, the degree dependent upon the variety of tissue involved. Thus epitheliomata have been known to arise from cicatrices of lupus, syphilis, a wart, a mole, or chronic ulcer. Carcinomata developing upon the so-called seborrhœic warts on the faces of old people have been studied by Schuchardt (*Beiträge zur Chirurgie*), and are called by Unna "seborrhagic carcinomata." The superficial epitheliomata arising from lentigoid patches on the face and hands, resembling the "freckles" of Kaposi's disease (xeroderma pigmentosum), chimney sweeps cancer of the scrotum, smoker's cancer are all examples of malignant neoplasms, secondary to long continued circumscribed irritation.

Except for the above-mentioned investigations of Schuchardt, concerning the nature of cancer from senile warts, which Unna confidently asserts are connected as a sequel with seborrhœic eczema, I have not elsewhere seen chronic eczema placed in a causal relation to malignant new growths of the skin; but to consider it as a cause, at least as contributory, is by no means illogical, and the following case may serve to substantiate this view:

John S., aged 75, a mattress-maker by trade, is the subject of this sketch. So long as he can remember he has suffered from erythematous eczema ("dry tetter") of the hands. It was always accompanied by a great deal of itching, for the relief of which he scratched freely. The trouble for which he consulted me dates back more than five years, and began as a small papule, one inch posterior to the web between the thumb and index finger of the right hand. The papule subsequently became transformed into a vesicle which ruptured and was replaced by a crust which reformed as often as removed, discovering a small ulcer be-

neath it. The borders of the ulcer, at first level with the skin, began to project sensibly above it, and to take on a certain induration, and steadily to increase in size. Under the use of various domestic remedies the ulcer cicatrized, leaving behind a purplish stain. The peripheral induration persisted. This apparent healing continued for about a year, when the hand became the seat of an erysipelatous inflammation, as a result of which the ulcer reopened and enlarged rapidly up to a certain point and then settled down to a chronicity. At present the hands are the seat of a chronic erythemato-squamous eczema; the natural lines much deepened, not to say fissured, the skin of the dorsum and palms infiltrated and livid; the nails are rough, striated longitudinally, markedly raised from their beds, and sharply convex. The finer movements of adaptation of the fingers are lost, owing to the lack of resiliency of the skin. The hand is held habitually half closed. Two lines behind the web between the index finger and thumb on the dorsum of the right hand, there is an elevated plateau with a superficial area comparable to that of a silver dollar. The borders of this plateau are of cartilaginous hardness, elevated about an eighth of an inch, and of a rose-color, with a sort of waxy translucence that admits of the superficial blood-vessels being clearly seen. The contour of the lesion is irregularly circular, the surface thrown into convolutions with intervening depressions of a violaceous tint. To the right of the centre of the lesion there is a deep, punched-out, infundibuliform ulcer, the apex directed outward, the edges undermined by the spreading base. The floor is irregular, showing small granulations which bleed readily. The ulcer secretes a straw-colored, slightly coagulable fluid, with a mawkish odor, which secretion dries in crusts more or less adherent. The lesion is movable *en masse*, but individual portions of it are anchored to the deeper layers of the skin, and cannot be lifted up or pushed aside without showing lines of traction. The cubital and axillary glands are not enlarged, the lesion is clearly an epithelioma of the superficial discoid variety. The subjective symptoms are few. There is occasionally pain of lancinating character felt in the upper extremity.

The man's family history is excellent as to tuberculosis and cancer. The patient has never had syphilis, and is the father of several children, all of whom are healthy, as are also their children. He himself enjoys good health, in spite of his age.

Euophen in the Treatment of Soft Chancre.

L. Estay (*Thèse de Paris*, 1893), has the following to say of euophen: (1), That it possesses the same germicidal properties as iodoform, and can be used in all cases of simple and suppurating wounds; (2), that in the treatment of chancroid it possesses advantages over iodoform in being mildly caustic, from the liberation of iodine vapor, in having no disagreeable odor, being five times lighter in specific gravity. It is not toxic, and adheres better to the surface to which it is applied.

The Cause of Stricture in the Male Urethra.

Dr. Charles Getz, of Baltimore, discusses in a thoughtful paper in the *Medical Record*, of November 10, 1894, the cause of stricture in the male urethra.

He takes the position that the majority of strictures are due to congenital malformation from faulty fusion of the two halves of the primitive urethra, and may be properly called embryonic strictures.

The first and most common variety consists of folds or puckerings, which, differing from the normal folds, do not become obliterated by any method of dilatation or condition of the penis—*i. e.*, erection. This narrowing has been described by some writers as adhesion of mucous surfaces.

The second class of congenital narrowing has not only the pathological mucous fold but also a tough, fibrous base over which the mucous membrane is more or less freely moveable. This varies much in width and thickness and may be as tough as a tendon. This class has been described as cicatricial.

Just how far these congenital narrowings, which are so frequently found, are responsible for disturbance of function to the point of justifying the name of true strictures is a moot question. Otis regards them as such, while Keyes speaks of them as natural undulations. Berkeley Hill fixes their pathological importance in the statement that, "if the balance between the natural expulsive force of the bladder

and the friction along the urethra is disturbed, the bladder is irritated, the kidneys are affected, and the beginning of the long chain of events, which not unfrequently terminates in death, is made." If this balance does not exist, and there are irregularities in the calibre of a urethra with a strong detensor muscle, symptoms of vesical irritability, incontinence of urine, priapism, etc., arise, and may be thus explained in the absence of an adherent prepuce or vesical calculus.

Passing on from the consideration of the frequency of congenital narrowings, the author proceeds to study how far these congenital defects are influenced by pathological processes, and how far concerned in close organic strictures. He agrees with Otis when the latter says, in speaking of the relation of gonorrhœa to stricture, "I recognize the fact, as it is most often brought to our notice through the occurrence of and persistence of this disease, that all pre-existing strictures or thickenings or irritations of the urethral mucous membrane are increased and intensified by it." Yet he cannot understand, from the knowledge we possess of the formation and nature of cicatricial tissue, how there can be such prompt effects (strictures developing early in the disease) resulting from gonorrhœa in a canal previously free from congenital defect. There are a certain number of cases which respond well to gradual dilatation up to a certain point, and then show signs of irritability, compelling a discontinuance of such treatment. This phenomenon he would explain by the supposition that the cicatricial tissue had been absorbed under the stimulus of the pressure offered by the dilatation, while the congenital narrowing had remained unaffected. These congenital coarctations show a high degree of irritability, and are peculiarly liable to be affected by gonorrhœal inflammation, and undergo pathological changes.

"If the urethra is well-developed from end to end—free from prominent congenital narrowings—approaching the highest normal type, as described by F. N. Otis, I believe that we can safely say that if such a urethra should become

affected by gonorrhœa, the attack would be mild and in due time leave the parts unscathed from the ordeal through which they had passed."

Next in importance to gonorrhœa as a cause for aggravating these congenital strictures is pathological urine, such as that of a gouty rheumatic or dyspeptic subject, or that containing inflammatory products, the result of disease in the upper urinary tracts.

These abnormal secretions are very damaging to a urethra previously malformed, and are just as sure to lead to the formation of a close organic stricture as is a gleet, resulting from gonorrhœa, though slower in action.

Last of all, as a cause for intensifying congenital stricture, is masturbation. While the irritation set up by the long-continued practice of this habit may be entitled to a place among the recognized causes of urethral stricture, it is not a violent nor a frequent one. Without inflammation, it is difficult to imagine this habit producing organic stricture. The stricture probably preceded the habit, and may have been the exciting cause of it.

If, finally, these congenital coarctations be taken as the proper basis from which most cases of stricture arise, and are considered in association with inflammations, we will find that with the exception of those of the traumatic variety, and those rather uncommon cases resulting from cicatrization of venereal ulcers, nearly every case may be classified under one or the other of the four following heads:

1. Congenital stricture (simple), including all anatomical narrowings, which are prominent enough to interfere with the normal vesico-urethral balance.
2. Congenital stricture aggravated by gonorrhœa.
3. Congenital stricture aggravated by pathological urine.
4. Congenital stricture aggravated by masturbation.

The position of the author is certainly an advanced one, for the generally accepted belief is that congenital strictures, as such, are rare, and usually confined to the meatus, or its vicinity. The opinion is also universal that the great

majority of organic strictures arise from a preceding urethritis, or from traumatism.

I cannot share in the author's reluctance to believe that gonorrhœal inflammation can produce stricture in a previously healthy and normal urethra. When it is remembered what a penetrating power the gonococcus possesses, and how it is capable of invading not only the cylindrical epithelium of the urethra, as demonstrated by Baumm, but also the flat epithelium and deeper strata of tissue, as shown by Touton and the same power shown by Dinkler in gonorrhœal ophthalmia, it is not difficult to understand how it may cause, by its continued activity, an exudative inflammation of sufficient intensity to produce a large area of cicatricial tissue, as seen in the so-called tortuous strictures. Yet the part played by congenital narrowings in producing stricture may be more important than is generally thought, and the subject is a good one for further investigation.

Nature and Treatment of Leprosy.

Dr. R. H. L. Bibb, of Saltillo, Mexico (*Amer. Jour. Med. Sciences*, Nov., 1894), in a paper which was awarded the Alvarenga prize for 1892 of the Philadelphia College of Physicians, makes the following conclusions in regard to the nature and treatment of leprosy:

1. That leprosy is a specific disease, due to the presence of the *lepra bacilli*.
2. That leprosy is influenced by race, climate, soil, food, etc., only in so far as these environments tend to enervation on the one hand and physical well-being on the other.
3. That experiments have not demonstrated leprosy to be inoculable on man or beast.
4. That leprosy is hereditary.
5. That leprosy is contagious, infectious, and communicable, under conditions not yet understood.
6. That leprosy is both mitigable and curable.
7. That chaulmoogra oil is a drug of unquestionable value in the treatment of leprosy.
8. That leprosy may be completely eradicated from the list of human ills.

*Analyses, Selections, etc.***Observations on the Action of Chloroform on the Functions of the Human Brain and Spinal Cord, as witnessed in Extensive Injuries of the Cranium and Brain.**

In this paper, Dr. Bedford Brown, of Alexandria, Va., Ex-President of the Association, cites the history of two cases of extensive compound comminuted fracture of the os frontis and serious injury and destruction of a portion of the frontal lobes of the brain, as the basis of his paper. One of these cases of injury was caused by the kick of a newly-shod horse, the other by a spent grape-shot in battle. The subjects of both of these injuries retained perfectly their powers of consciousness and sensation.

The history of the first case was published in the October number of the *American Journal of Medical Sciences*, 1860, and occurred in the summer of that year. The fracture in that case involved a large portion of the os frontis. The fractured bones were driven back in the substance of the brain quite an inch in depth, lacerating the frontal lobes extensively. There was a loss of about two tablespoonsful of brain. During the operation, which lasted more than an hour, the patient was placed under a compound of chloroform three parts, ether one part, four different times. Through this large opening in the skull, the brain could be seen perfectly, and its varying changes of action under chloroform could be observed perfectly. The invariable action of the anæsthetic was to suppress hæmorrhage, to quiet cerebral pulsation, and to positively reduce circulation in the brain and arterial tension. These peculiar effects were observed as many as three or four different times. When the patient was threatened with collapse from chloroform, stimulants injected in the rectum produced increased circulation and arterial tension in the brain promptly. Any struggling, mental excitement or resistance, while inhaling chloroform, caused marked increase in cerebral circulation and pulsation, with increase of hæmorrhage.

The *second case* was that of a Confederate soldier, who, in battle, received a spent grape-shot in his forehead, causing an extensive compound comminuted fracture of the os frontis, driving the fractured bones back more than an inch into the frontal lobes. The wound in the skull was quite two inches in diameter, and more than an inch in depth. This patient was subjected to chloroform three times during the

operation, which lasted about an hour. The action of chloroform on the functions of the brain in this case was similar to that in the first. When under full anæsthesia, each time the cerebral hæmorrhage ceased, the cerebral pulsations diminished to a mere tremor, and the arterial circulation was markedly reduced. This occurred three different times during the operation. The action of alcoholic stimulants resorted to in this case to prevent collapse from chloroform increased the cerebral pulsations and circulation in a positive manner.

The following subjects are discussed at length in this paper: *The combined action of chloroform on the cerebral pulsations and the function of respiration; the effects of struggling, muscular exertion, or mental excitement on the brain while inhaling chloroform; the effects of alcoholic stimulants on the brain while under chloroform narcosis; cerebral anæmia caused by the action of chloroform in its relation to the functions of respiration, circulation, and heat generation; the safety of chloroform anæsthesia in injuries of the cranium and brain; the relationship of the degree of arterial tension in the pulse and brain to the respiratory capacity as affected by anæsthesia; the action of chloroform in active congestions, violent convulsive movements and maniacal excitement of the brain; and the action and effects of chloroform and ether respectively on the brain are compared.*

Diphtheria Antitoxin.

Dr. O. Heubner believes that the serum now furnished for the treatment of diphtheria can be measured as to its strength, and so its proper dosage can be arrived at. It has also been demonstrated to be harmless both as to local as well as to general manifestations. The strength of the serum is such that one part of serum by subcutaneous injection will surely kill twenty-five hundred times its weight of guinea-pig. In the treatment of these cases a syringe which can be made aseptic, for instance the Koch bulb-syringe, is employed. The glass cylinder and the needles are boiled in a 10 per cent. soda solution. The site chosen for the injection is either between the clavicles, under the ribs, in the flanks, or on the inner side of the thigh. The skin is washed with soap, cleansed with ether, and the physician sterilizes his hands. Before the syringe is filled directly from the bottle, it and the canula are again cleansed with ether and alcohol. After the injection the puncture is covered by a bit of rubber adhesive plaster.—*Deutsche Medicinische Wochenschrift*, 1894, No. 36, S. 701.—*Amer. Jour. Med. Science*, December, 1894.

Treatment of Diphtheria with Antitoxine.

Dr. Arnold W. Catlin, of Brooklyn, N. Y., has published his experience with antitoxine in the treatment of a case of true diphtheria (*Med. News*, Nov. 10, 1894):

Male, nine years old; seen for the first time morning, Oct. 7, 1894, when temperature was 102° F.; pulse, 120, and a large amount of exudate was discovered, filling the fauces and obstructing the breathing. A bacteriological test having shown the case to be one of true diphtheria, at 7. P. M. an injection of the antitoxine (Aronson's *Heil-serum*) was administered, five grams at once, between the shoulder-blades. No reaction occurred, and on the following morning the child appeared to be better. During the day the temperature varied from 100.5 to 120°, and the pulse was 120 and feeble. The child refused stimulants by the mouth. Tuesday morning there was a change for the better, although no further injection had been given. "The temperature had fallen, the pulse was stronger, the tongue cleaner, and the exudate was loosening at the edges, while the surrounding parts looked bright and healthy. The improvement continued during the day. There was a free flow of saliva and mucus from the throat, but no membrane exfoliated. It appeared thinner and was evidently disappearing."

We are led to infer that the treatment first inaugurated, namely, mercuric bichloride, gr. $\frac{1}{40}$, and tincture of the chloride of iron, 5 minims, every three hours, was continued independent of the antitoxine injection.

On the Thursday following, the temperature touched normal for the first time, the pulse rate was 86, the throat nearly clear and the nasal passages much freer. The subjective condition of the patient was excellent; he was hungry and wanted solid food, and there was no albumin in the urine, although a bacteriological test showed that the Loeffler bacillus was still present.

On Saturday, this patient was, to all intents and purposes, perfectly well, but the bacilli were still present, and the patient was therefore quarantined and remained in bed. Finally, at the end of twenty-one days, the bacilli were absent, but they returned with an intercurrent attack of follicular tonsillitis, and did not permanently disappear until the twenty-ninth day of treatment. Albumin appeared but once, on the eighth day of treatment, and then only a trace.

The foregoing note is recorded for two reasons. (1.) It shows the probable value of the antitoxine, provided no other medication was continued, and only one injection was

administered; but it is scarcely probable that Dr. Catlin should give but one dose of the remedy, and depend on that alone. (2.) It shows how dangerous these cases may become to a community, but especially to schools, churches and other assemblies.

New Method in the Treatment of Hydrocele.

Dr. Ap. Morgan Vance, Surgeon to Louisville City Hospital, etc., says (*Amer. Therap.*, Nov., 1894):

I believe that the method I have employed is better, much more comfortable to the patient, and will in my estimation prove more effective. I introduce a medium-sized trocar from below upwards entirely through the hydrocele sac, transfixing it completely; following the withdrawal of the trocar, I insert a fenestrated rubber tube through the canula, then the canula is withdrawn, leaving the piece of rubber tube *in situ*, through which the hydrocele fluid is allowed to drain. For two or three days I irrigate this contracted sac with some irrigating fluid—dilute alcohol, sublimate solution, or simply water. At the end of that time I withdraw the tube partially, then the day following remove it.

It is not necessary in doing this operation to have general anesthesia, as after thoroughly cocainizing, the parts of the trocar can readily be introduced with very little pain, and the patient suffers very little inconvenience from the presence of the soft rubber tube. I have operated eight times by this method, and have only failed to cure one case absolutely, and this case turned out to be a tuberculous testis, which was afterward removed. I recommend the procedure as being a very simple, safe and effective way of treating hydrocele, the length of time required being on an average about five days. Suppuration has not occurred in any of the cases I have treated by this method. It is certainly more effective than the injection of carbolic acid or iodine which is recommended by some writers, and much easier and simpler than the open incision, besides being just as good.

Naphthalene—the new and reliable Anthelmintic and Tenicide.

Dr. A. D. Hard, Lafayette, Ind., says (*Cin. Med. Jour.*, Oct. 1894) that Dr. Mikowicz first called public attention to naphthalene, as a reliable anthelmintic and tenicide, in 1891. Naphthalene is a coal tar derivative, crystalline in form, insoluble in water, and but slightly soluble in alcohol. It is soluble in alkaline digestive fluids, but is not absorbed

through the intestinal walls to any appreciable extent. Four hours after the exhibition of a maximum dose no evidence of its presence could be detected by any abnormal products in the urine or sweat. It is absolutely destructive to all forms of entozoa, is an unchangeable intestinal antiseptic, is a neutralizer of ptomaines, rendering them innocuous, and is an antiferment. As a *tenicide* one dose is usually sufficient, and it is unnecessary to examine for the head—it always comes away. There is no uncertainty about the dose, as with filixmas; there is no permanent injury to the gastric glands, as with tannate of pelletierine; there is no terrible cephalgia, as with ammonium embelate; there is no danger, as with chloroform.

Naphthalene, however, has its drawbacks. It is a very disagreeable drug to administer. Not only is it quite unpleasant to the taste and smell, but it is followed by offensive eructations.

As to technique, it should be given in capsules, twenty grains for one dose, and in the morning when the stomach is empty. Three previous meals should contain an excess of salty and vegetable acid foods. Four hours after taking the capsules an eight grain dose of calomel with four grains of bicarbonate of soda should be given, followed in another four hours by two tablespoonfuls of castor oil. This is for an adult of average size. The dose for children should be about one-half as much, given only when extreme debility does not exist. Naphthalene can be had from any first-class drug house, and should cost about twenty cents per ounce. The chemically pure crystals only should be used.

Cascara Sagrada in Uric Acid Diathesis.

Dr. W. H. Walling (*Med. and Surg. Rep.*) recommends Cascara Sagrada (Parke, Davis & Co.'s Aromatic Fluid Extract), in ten or fifteen drop doses, from one to three times daily, as more valuable in the treatment of "uric acid storms," and other symptoms arising from "defective food or tissue metabolism," commonly attributed to uric acid diathesis or lithiasis, than in disorders resulting from the so-called antilithics.

Our experience entirely agrees with that of Dr. Walling, whose conclusions are drawn from clinical observation, and are in entire accord with those now known as the etiology of this condition. The idea that uric acid diathesis is due to a "torpid liver" is rapidly becoming obsolete. This condition is unquestionably more often dependent upon im-

perfect food metabolism than any other one cause. In consequence of defect in the digestive process, the nitrogenous elements of the food enter the blood imperfectly elaborated, and act as poisons in the system instead of furnishing material for tissue rebuilding. The most common cause of this condition is stomach and intestinal sepsis. Dujardin-Beaumont and others have shown that Cascara Sagrada is a valuable remedy under these conditions. Doubtless also the aromatics employed in the preparation referred to exert some useful influence as an antiseptic.—*Mod. Med. and Bact. Rev.*, November, 1894.

Report of the South Carolina State Board of Medical Examiners, held at Columbia, October 9th and 10th, 1894.

NAMES OF COLLEGES REPRESENTED.	Number of applicants from each.	Number that passed the Board.	Number rejected.
Medical College of Georgia, Augusta, Ga.....	1	...	1
Medical College of Virginia, Richmond, Va.....	1	1	...
Med. Department, Howard University, Washington, D.C.	4	2	2
University of Pennsylvania, Philadelphia.....	1	1	...
University of City of New York.....	1	1	...
Women's College of N. Y. Infirmary, New York.....	1	1	...
College of Physicians and Surgeons, Baltimore.....	1	...	1
Medical College of Baltimore.....	1	1	...
South Carolina Medical College, Charleston, S. C.....	3	3	...
Total.....	14	10	4

C. F. MCGAHAN, M. D.,
Sec. So. Car. State Board Medical Examiners.

Proper Time for Everything.

"If you wish to retain your situation, Mr. Piper, it will be necessary to pay more attention to your personal appearance. You look as though you had not shaved for a week."

"But I am raising a beard, sir."

"That's no excuse. You do that sort of a thing outside of business hours."

New Idea About the Bicycle.

The *Jour. Mat. Med.*, Nov., 1894, says "there is reason to believe that, in the fullness of time, the bicycle rider will be able to *make both ends meet*. The way he is already humping himself, the time cannot be far distant when he shall have achieved success."

Book Notices.

Kola—An Illustrated Monograph. Published under the Direction of F. E. STEWART, M. D., Ph. G., Director Scientific Department F. Stearns & Co., Formerly Demonstrator and Lecturer on Materia Medica and Pharmacy, Jefferson Medical College, etc. Press of Frederick Stearns & Co., Detroit, Mich. 1894. Paper. 8vo. Pp. 78.

This is announced as the first of a new series of scientific monographs, to be published by the Scientific Department of Messrs. Frederick Stearns & Co. This Department is separated altogether from the commercial interest of the house. Its object is the free diffusion of knowledge, and offers to furnish material for original research, and to pay to have such work done. Now, as to *Kola*, which seems to have been introduced in 1881 to American commerce by Messrs. Fred. Stearns & Co., *Part I*, on "Pharmacognosy," by J. O. Schlotterbeck, Ph. C. B. S., Instructor, etc., in School of Pharmacy, Univ. Mich., is beautifully illustrated—showing the leaf, tree, nut, etc. It is a remedy in neurasthenia, nervous and cardiac affections, diarrhoea, confinement, alcoholism, sea-sickness, etc. Dr. Jno. V. Shoemaker gives an excellent report on the "clinical study of kola," etc. We take pleasure in commending the Series under the Direction of Dr. Stewart.

Travaux d'Electrotherapie Gynecologique. *Archives Semestrielles d'Electrotherapie.* Fondes et Publiées par Le Dr. G. Apostolli, Vice-Président de la Société Française de Electrotherapie, etc. Paris: Société Editions Scientifiques. 1894. Vol. I. Fascicules 1 and 2. Paper. 8vo. Pp. 720.

This volume is made up of the translation into French, and republication of numerous papers favoring Dr. Apostolli's electrotherapeutic method in diseases of women. Articles are taken in their entirety from English, Belgian, American, Russian, Italian, German, Danish, Austrian, Polonais, Hungarian and Canadian journals, etc.—all of which—collected into one volume—presents a startling array of great men who follow or adopt Apostolli's method. Among Americans, we note the names of such eminent authorities as Rockwell, Gœlet, McGinnis, Buckmaster, Lapthorm, Smith, Martin, Massey, Skene, Mundé, and Kellogg. The second volume is in press, and will be issued very soon. All that relates to editing and exchange of books or journals, should be addressed to Dr. G. Apostolli, Paris (5 Rue Molière), France.

Dictionary of Medicine, Including General Pathology, General Therapeutics, Hygiene, and Diseases of Women and Children. Edited by RICHARD QUAIN, Bart. M. D., Lond., LL.D., Ed., F. R. S., President of the General Council of Medical Education, Member of the Senate of the University of London, etc. Assisted by FREDERICK THOMAS ROBERTS, M. D., Lond., B. Sc., and J. MITCHELL BRUCE, M. A., Abdn., M. D., Lond. With an *American Appendix* by SAMUEL TREAT ARMSTRONG, M. D., Ph. D., Visiting Physician to the Harlem, Willard Parker, and Riverside Hospitals, New York, etc. *New Edition, Revised Throughout, and Enlarged.* In Two Volumes. VOL. I. *Abdomen-Lysis.* Roy. 8vo. 1261 pages. VOL. II. *Macrocheilia-Zyme.* Pages 1305. New York: D. Appleton & Co. 1894. Half morocco. (Sold only by subscription.)

"Quain's Dictionary of Medicine," or Dictionary of Diseases—their Etiology, Pathology, Symptoms, Diagnosis and Treatment, is a work that needs no recommendation other than the announcement that the present edition is thoroughly revised by each of the nearly 200 authors of articles, except when death prevented, when the task was committed to another. As compared with the edition of 1882, we find this in a larger type, and, after eliminating errors or worthless material, we find that fully a fourth of the articles in each volume is new, authoritative and valuable. Now that we have the revised Dictionary, it seems indispensable. The *American Appendix* relates mostly to American Mineral Springs, and adds articles on particularly American topics, beside introducing some recent medical terms and a few cross references. Among the list of original contributors, we note among Americans the names of Echeveria, Howard, and Joseph Jones. The contributions of each of these gentlemen well sustains their established reputation as close observers and students and as able teachers. While this Dictionary of Medicine necessarily includes some notice of diseases which fall more generally under the care of the surgeon, the work makes no pretension to being a Dictionary of Surgery. Arrangements were made with the Publishers which enabled the Editor to have every article revised which needed revision up to the time of going to press. So that, whoever gets this almost invaluable Dictionary of Medicine, gets the very latest facts that could possibly be incorporated in volumes of such proportions. We have to regret, however, omission of allusion to the antitoxin plans of treatment of diphtheria, tetanus, etc. Still, this Dictionary has so many fully compensative advantages over other works of like scope, that we may mention these omissions without, in any way, lessening the highest estimation that may be placed upon the work itself.

Text-Book of Nervous Diseases, Being a Compendium for the Use of Students and Practitioners of Medicine. By CHARLES L. DANA, A. M., M. D., Professor of Nervous and Mental Diseases in New York Post-Graduate Medical School, and in Dartmouth Medical College, etc. *Third Edition. With 216 Illustrations.* New York: William Wood & Co. 1894. Post 8vo. 549 pages. Red parchment cloth, \$3.25.

The author thinks that the time is not ripe for any radical revision of his second edition, published two years ago. The most important advances since then have been made in the anatomy of the nervous system, especially with reference to the unity of the nerve cell and fibre (or the *neuron*); but, while the essential facts are included in the present edition, the required changes have not been numerous or decided enough to increase the page or the matter on the pages. The only addition is the supplementary chapter on "General and Special Neurological Therapeutics," in which several items of practical value—new as well as some old ones—are given in detail. We ought to have added that this handsomely issued volume is one of the "American Series of Medical Text-Books," which the Publishers have begun. We have received, and most unreservedly given favorable notices to, Dr. Witthau's "Medical Student's Manual of Chemistry," Dr. Reynolds' "Practical Midwifery," Dr. R. C. M. Page's "Practice of Medicine." Volumes on other subjects are being prepared.

A Clinical Manual of Diseases of the Eye, Including a Sketch of its Anatomy. By D. B. ST. JOHN ROOSA, M. D., LL.D., Professor of Diseases of Eye and Ear, New York Post-Graduate Medical School and Hospital; Surgeon to Manhattan Eye and Ear Hospital; formerly Professor of Diseases of the Eye, University of the City of New York, and in the University of Vermont, etc., etc. 8vo. 650 pages. 178 Engravings in the Text, nearly all Original. Two full-page Chromolithographic Plates, and a full-page Black Plate. Extra muslin, \$5.50; sheep, \$6.50.

This work, by an author so eminent in his specialty, and one so popular in all his relations to the profession of America especially, will be welcomed particularly by those who are devoting anything like special attention to diseases of the eye. It comes as near being "a complete and safe guide to the practitioner" as it is reasonable to expect any work to be. While necessarily there cannot be much of original work now in the Anatomy and Physiology of the various parts of the eye and its appendages—so closely have these things been studied and described—or with reference

to the relative frequency of different diseases of the eye, methods of examination, therapeutics and surgery of the eye, or even with reference to what is included in Part III on Diseases of the Eye-lids, the Lachrymal Apparatus, the Conjunctiva, Eye-ball and Orbit, etc., it should be added that there is but little of practical value with reference to these subjects, that has become established practice, etc., that is not incorporated in this "Clinical Manual"—so far as all of such things could be well incorporated in a work of the kind. But with reference to Part IV, which treats of "Conditions of the Eye Requiring the Use of Glasses, Errors of Refraction and Accommodation, Strabismus, Affections of the Ocular Muscles," etc., there are many things not decided which allows of wide differences of opinion. And it is in this Part that the author indulges in the presentation of some personal views, based upon his own study and observations. In the preparation of this work, the author has received valuable assistance from those he has associated with him. In many places we see the well grounded opinions of Dr. J. B. Emerson expressed and adopted. His eminence in every department of his specialty is a matter of pride to the Southern profession—hailing as he does from Virginia.

Synopsis of the Practice of Medicine. By WILLIAM BLAIR STEWART, A. M., M. D., Lecturer on Therapeutics; late Instructor in Practice of Medicine, Medico-Chirurgical College of Philadelphia, etc. New York: E. B. Treat. 1894. Cloth. 8vo. Pp. 433. Price, \$2.75.

This handsomely issued volume is what its title claims for it. It is about as concise a compilation from good authorities as could be well made, and is, therefore, a valuable book with which to review what has been learned from the authoritative works on practice. It is also valuable to the practitioner, who may be compelled to look in haste for leading facts to guide him in diagnosis, therapeutics, etc.

Landmarks in Gynæcology. By BYRON ROBINSON, B. S., M. D., Chicago, Ill., Professor of Gynæcology in Chicago Post-Graduate School, etc. Small 8vo. Vol. I, pp. 114; Vol. II, pp. 105. 1894. George S. Davis, Detroit. Price, 25 cents a volume.

These little volumes of the "Physician's Leisure Library" make a work of great practical value to the student or practitioner of gynæcology. He names as Landmarks such chapters as Anatomy, Menstruation, Labor, Abortion, Gonorrhœa followed by puerperal fever, Sterility, Prophylaxis

and treatment, and under the sixth Landmark the author considers the subject of tumors. He describes a "new operation" which he did in 1892, consisting in ligating the tubes and ovaries (with removal, if indicated), and ligation of the uterine artery as it courses along the side of the uterus. The indications for the operation are: To avoid the removal of uterine myoma; to aid in causing atrophy of the myoma; to induce cessation of menstruation; and to check uterine hæmorrhage.

Diagnosis, Differential Diagnosis, and Treatment of Diseases of the Eye. By A. E. ADAMS, M. D., Instructor in Diseases of the Eye in Post-Graduate Medical College, etc., New York. G. P. Putnam's Sons, New York and London. 1894. Small 8vo. Pp. 94. Cloth. \$1.00. (For sale by West, Johnston & Co., Richmond).

These tables have been compiled for the general practitioner by sifting out of the larger text-books the diagnostic symptoms of different eye diseases. Usually the symptoms of a given disease are all given in the first column; those at least that have reference to a differential diagnosis of the disease are found in the opposite column. The diagnostic symptoms are in small capitals. The treatment suggested is altogether synoptical, and is given at the end of column. This book is useful, simple and handsomely issued, and its tables would often prove far more valuable to the general practitioner than many times the very small price of \$1.00.

Proceedings of the Fourth Annual Meeting of the Association of Military Surgeons of the United States. Held at Washington, D. C., 1st-3d May, 1894. *President*, Nicholas Senn, M. D., Chicago; *Secretary*, Eustathius Chancellor, M. D., St. Louis. 1894. Cloth. 8vo. Pp. 816. \$4.

This volume of Proceedings is perhaps the last special volume to be published, as the Association is contemplating a special journal form of publication after its 1895 session in Buffalo, N. Y. The present volume, however, is far superior in general make-up to any former edition, having numerous excellent papers, a very comprehensive index, beautifully illustrated with photo-engravings, half tones, etc., and is intrinsically worth more than the price to any person interested in military medicine, surgery, sanitation, equipment, etc. Surgeon-General U. S. A. George M. Sternberg is President-elect.

Editorial.

Doctors as Dispensers, and Pharmacists as Prescribers.

In looking over the *Proceedings of the Thirteenth Annual Meeting of the Virginia Pharmaceutical Association*—a volume which has something of interest on almost every page to doctors as well as pharmacists—we find the remark by our popular friend and pharmacist, Mr. Polk Miller: "With the present condition of business, if I had to depend on putting up prescriptions only, I had rather drive a dray for a living." Pharmacists of equal popularity are continuously making like remarks. The Pharmaceutical journals are teeming with articles discussing the relations and practices of both professions—sometimes with feeling against doctors; sometimes against manufacturing pharmacists. Mr. Geo. J. Seabury, of New York, who travels all over the United States, remarked during the same session of the Virginia Pharmaceutical Association, with reference to the demoralization of the drug business in some parts of the country: "With representatives of manufacturing houses going about giving instructions how to treat diseases, our business will be gone unless we stand together, and fix a line between medicine and pharmacy."

It is needless to discuss the rights or the proprieties of either profession in cases of emergency. A man falling on the street in some urgent attack of angina pectoris is lifted into the nearest drugstore, and the pharmacist crushes a pearl of amyl nitrite and administers it to save life or to relieve pain. Such would be but an act of humanity. Members of the patients' family are told to do the same thing. In like manner, the doctor is expected to be supplied with his hypodermic syringe and tablets, and with other articles to meet emergency cases. Such prescribing by the pharmacist, or such dispensing by the doctor, should not of course be listed as illustrations against either drug-gist or physician.

Again, there can be no reasonable inclusion in the discussion of the propriety of the country doctor who, by force of circumstances, has to carry his filled saddle-bags, from which he has to select and dispense his medicines.

But in some cities, where drugstores are at almost every corner, the habit of dispensing practiced by certain physicians has done enormous mischief in reducing what should

be a dignified profession of pharmacists—as it was only a few years ago—to a level scarcely higher than the pill-peddler. It is idle for the doctor to undertake to defend this course by asserting that it is a retaliation upon the druggist for counter-prescribing, for substitution of other articles than that he prescribes, etc. If the doctor will stop to think for himself one minute, and not bend the ear to the perjuries of some of the sly, low, cunning “drummers,” who are anxious to *stock the doctor's office* with a line of their goods, he will see how great an injury he is ultimately doing himself and his future. A man utterly unknown to the doctor, selected by the manufacturer because of his glib tongue and plausible address, steps into the doctor's office, opens up his show-case, and begins his speech. “Doctor, no druggist can be relied on to fill your prescriptions as you want them filled. Every druggist substitutes. Your patient will get an inferior brand of medicine, or he may receive a totally different one. Furthermore, you share the risk of a blunder, serious or fatal, at the hands of a cheap drug clerk. Even if your prescriptions are honestly filled, don't you know that they will be repeated as often as the patient demands? Doctor, you have got to dispense if you want to protect yourself against the druggist.” And then proceeds to convince the doctor that the most estimable men and druggists are scoundrels; and then, to shut the trap in which he has caught the doctor, he offers him prices as low as those given the trade. How is it that doctors are so gullible? How is it that they so quickly give themselves up to believe a man employed because he is plausible, that he never heard of before, and probably will not see again for years; and yet, not believe the friend and intimate acquaintance of years against whom, from no other source, has he ever heard a breath of suspicion?

But in breaking up the druggist—the home pharmacist—the doctors should remember that he is doing himself and his patients an injury; for time and again there will be occasion for the compounding of prescriptions of some of the rarer drugs. Had the druggist been allowed to make his profit out of the commoner goods which the doctor has been dispensing, then the pharmacist would have been able to keep up a supply equal to the demand. But the city doctor, in his short-sighted policy of buying from the “drummer,” has taken from the local pharmacists the profit of legitimate business—the capital, in short—with which he would have kept up his full line of drugs, etc. To quote

further from the *Bulletin of Pharmacy*: "A few druggists may substitute; a few may repeat prescriptions without authority; but the whole fraternity should not be black-guarded and made to suffer for the sins of the few."

It is not necessary to assert that, while we regret any developing tendency on the part of doctors to become dispensers of prescriptions that legitimately, and for the best interests of all concerned, belong to the reputable pharmacist, no countenance should be given to that druggist who undertakes to prescribe over or behind the counter. Of course if the patient comes in to buy a bottle of Santal Midi, or any other definite medicine, on his own responsibility, we concede to the pharmacist the merchant's right to sell it; but that does not yield to him the right to prescribe it. Let us deal fairly with each other.

We know of no way to prevent the injury done by doctors and druggists to each other, unless a plan of agreement between the two can be determined upon. Hence, it would seem well in certain communities to invite a conference of both the doctors and the pharmacists of the place, and let there be an earnest effort on the part of each to re-establish that relation between the two which can result only in good to both.

Visiting Lists for 1895.

Messrs. P. Blakiston, Son & Co., Publishers, 1012 Walnut street, Philadelphia, are ready with their well-arranged *Physicians' Visiting Lists* for 1895—their 44th year of publication. The Dose Table has been entirely re-written by Dr. George M. Gould. This List is issued as usual as what is called "regular edition," the "interleaved," the "perpetual," and the "monthly," at prices ranging from \$1 to \$3. As the "List" is sold by all booksellers and druggists, there will be no difficulty in receiving full descriptions before buying. It is an excellent, complete, compact, and simple List.

The Weekly Medical Review Pocket Reference Book and Visiting List, Perpetual, published by Messrs. J. H. Chambers & Co., of St. Louis, is also a well-arranged List, with the usual tables of doses, diagnoses of eruptive fevers, etc. But we notice in the Table of Contents calls for Calendar for 1891, 1892, whereas the Calendar for 1895 alone is given on the fly-leaf. Good for 25 patients weekly. Price, \$1.

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Original Communications.

ART. I.—*Lues Venerea**.

By HENRY ALFRED ROBBINS, M. D., of Washington, D. C.

Mr. President and Members,—A few days ago, I had the honor of receiving a formal invitation from my friend, Dr. Thomas C. Smith, the Chairman of your Committee on Essays, to address the Society at some time in the near future, on the subject of Syphilis. At first, this request would seem easy enough to comply with, as it is a subject that every drug-clerk and medical student think they fully understand.

Dr. Smith, in his letter of invitation, states: "The several questions relating to syphilis are generally regarded as fully answered and settled; and yet put a well qualified practitioner on the stand, and it is lamentable to witness his display of ignorance on the subject."

The cause of this lack of knowledge may be readily understood when you call memory to your aid and look back

*Read before the Medical Society of the District of Columbia, on November 14th, 1894.

on your own student days. The subject has been and is still ignored by nearly every medical school.

Dr. Charles W. Allen, of New York city, states: "The amount of time and attention given this all-important subject in all the medical schools of this country is farcical. Men are sent out into the world, and are expected to diagnose syphilis, when the training the college authorities have vouchsafed them in this branch is entirely out of proportion to its importance. I am continually seeing victims of this disease *who are no less the victims of this lack of proper clinical instruction and requirements on the part of the medical schools.* I say it in a spirit of shame, rather than one of captiousness, that practitioners, *from a lack of knowledge,* permit patients to marry, and to cohabit, while still sources of danger, and to go about freely with contagious lesions in the mouth or throat, without giving them warning of the facility with which they can transmit the disease to others."

In an article published in the *Virginia Medical Monthly*, October, 1894, on non-venereal, or unmerited syphilis, I gave illustrations how innocent people acquire this disease, and in its most malignant form.

Dr. L. Duncan Bulkley states, "Non-venereal chancres have been mistaken for epitheliomata, and operations for their removal have been even performed."

I have known one case of tubercular syphiloderm of the upper lip, to be diagnosed to be lupus by one surgeon, and epithelioma by another.

Gummy tumors have been diagnosed to be sarcoma, and the ever ready knife of the surgeon ordered into use, but where the happy administration of the proper treatment has caused them to melt away like snow under the mid-day sun.

Syphilitic testicles have been pronounced to be cancer, and surgeons have castrated the victims, causing bloody mutilations. A correct diagnosis and knowledge as to the treatment would have rendered castration unnecessary.

John Hunter said that the two great obstacles to the study of venereal diseases were ignorance and falsehood. Ignorance on the part of the surgeon, and falsehood on the part of the patient.

The ruling of those men, who have control of the clinical training of our medical students, is that *assistants* to a surgeon are good enough to prescribe for the victims of syphilis, and the charity patients suffering from diseases of the skin.

I have prepared and read fifteen articles on the subject under consideration, and I feel as if I had barely touched, or rather skimmed over, the horrors and ramifications caused by this hydra-headed monster. Hercules, of fabulous history, destroyed his by cutting off its heads and applying fire-brands. The arrows he dipped into its poisonous blood were fatal to those he wounded.

Thus with the monster Syphilis, the poisonous virus is in the blood of its victims, and proves too often worse than death. We may cut out the wounds, but the virus remains there still.

This evening I can only call your attention to a few important, and I trust interesting facts, which I have arranged under the title of *Lues Venerea*.

According to Grecian lore, *syphilis* is derived from the words *συν*, together, and *φιλεω*, to love. The synonym of this is *lues venerea*. Thus the most sacred words that exist are made use of to express the vilest disease, which most frequently is the fruit of lust and debauchery. It is the most far-reaching and diabolical scourge that afflicts mankind.

All that is false, in any way relating to the United States of America, is most willingly believed in the lands to the north of us and across the Atlantic, but not in those countries where the language is foreign to our own.

Volumes have been written to prove that *Lues Venerea* was of American origin, and was brought to Europe by the crews of Christopher Columbus, and that this fair land was the cradle of the disease.

Our Aborigines were not the *imparters*, but the *imparted*. Captain Dabry, in an article, entitled "*La Medicine Chez les Chinois*," published in 1863, quotes from an author named Hoan-ty, who lived two thousand six hundred and thirty-seven

years before the Christian era. This Chinese author gives an unmistakable account of cases of lues venerea, and his descriptions surpass those of many modern writers.

In my article, already referred to, I endeavored to prove that the brute creation were entirely exempt from this affliction. Almost every variety of animal has been inoculated with the virus of syphilis, and with negative results.

Since writing that article, I find that Klebs states that he has been successful in inoculating monkeys with the virus of lues venerea. This will be re-assuring to the disciples of Darwin, and for their gratification I will state that one poor little *ancestor*, six weeks after the inoculation, or rather cruel implantation, exhibited general and febrile symptoms, attended by a papular eruption on the forehead and face, and five months later, on the necroscopic examination, Klebs found syphilitic lesions in the skull and lungs.

The idea of living organisms being the cause of syphilis was expressed in a rude form as early as the seventeenth century.

In 1872, Linstorfer created a sensation by announcing the discovery in the blood of syphilitics of microscopic bodies, pathognomonic, as he claimed, of the disease. The bodies in question, however, were soon found to exist in other diseases, and were shown to originate from the white corpuscles.

Not long after this, Klebs announced the discovery of micrococci in the initial lesion of syphilis. He did not, however, find them in the secondary lesions.

In 1884, Lustgarten, formerly of Vienna, now of New York city, thought that he had discovered the bacillus in a syphilitic gumma. In 1885, he published a paper giving an accurate description of the bacillus, and the results of a more extended investigation of the subject. He had in the meantime examined numerous specimens of syphilitic lesions, and as he had invariably been able to demonstrate the presence of the bacillus in them, and its absence in two soft chancres, he expressed his firm conviction that the bacillus was the specific cause of the disease. Koch and

Weigert confirmed the discovery, and stated that the bacilli in size and shape greatly resembled those of tubercle.

Alas, for mankind! Lustgarten's germ was not the specific cause of syphilis. Tavel announced in the *Archive de Physiol. et Path.*, 1885, "that he had found in the smegma and secretions of the mucous membranes of the external genital organs micro-organisms, which in shape and reaction to staining material, proved identical with the bacillus described by Lustgarten.

Kassowitz and Hochsinger state that they have discovered a special micro-organism, differing from the rods of Lustgarten, in the tissues of children suffering from hereditary syphilis. The microbe was found in the liver, pancreas, and osseous tissues, as well as in the skin (in pemphigus). It occurred in the form of streptococci arranged in chains. These were found in masses in the smallest capillaries, but were never seen in the cells themselves, being arranged around them. They were found chiefly in those parts in which the inflammatory process was most active, and seldom in tissues in which this process had run its course.

Auspitz and Unna have further studied the changes in the vessels of the mass of induration, resulting in a diminution of the calibre, or in their complete obliteration, which they compare to those observed by Heubner in the arteries of the brain: and they express the opinion that in future investigations of syphilitic neoplasms the conditions of the vessels is the chief point of study.

Senn, in his "*Surgical Bacteriology*," states, "It is interesting and profitable to know what has been done during the last few years in the bacteriological study of syphilitic lesions, although the claims which have been made are in all probability unfounded."

The germ of syphilis, sooner or later, will be discovered, and the name of the discoverer will rival that of Koch.

Perhaps no word grates on the ear more than that of chancre. It is always associated with the name of the great pathologist, John Hunter, for it is generally believed that

he was the first to describe graphically the indurated chancre. Hunter believed in the identity of gonorrhœa and syphilis. He was chief of the identists, and continued to believe in his theory up to the time of his death; and for the following reasons.

To prove his theory he experimented on himself. He took pus from the urethra of a supposed case of gonorrhœa and inoculated himself with it. He made two punctures with the lancet—one on the prepuce, the other on the glans. Both inoculations produced, he said, ulcerations having all the characteristics of chancre, and were followed by syphilitic eruptions. This positive result left no doubt in the mind of Hunter, and from that time he was convinced of the essential identity of the virus of gonorrhœa and chancre.

The experiment of trying to inoculate syphilis with gonorrhœal pus has since been tried in vain. There is not the shadow of a doubt but that the great anatomist had the misfortune of finding a patient who had an urethral chancre, and the pus from that infecting source was commingled with the gonorrhœal discharge. Or, the patient was suffering from constitutional syphilis at the time he had gonorrhœa.

John Hunter was born on February 13th, 1728, and died on October 16th, 1792, in the 65th year of his age. As anatomist, naturalist, physiologist, and surgeon combined, he stands unrivaled in the annals of medicine. Early in 1786, he published his *Treatise on the Venereal Disease*. Although certain views expressed regarding syphilis have been proved to be erroneous, the work is a valuable compendium of observation of cases.

I believe that I am the first to attribute the death of this great man to *lues venerea*—a disease he inflicted on himself. Unwilling to endanger the life of another, he experimented on himself. His most intimate friend, Edward Jenner—the discoverer of vaccination—diagnosed his friend's disease to be angina pectoris, and so it was; but back of this stood the hydra-headed monster, syphilis.

I will describe the tragic death scene, and comment on the post-mortem appearances.

While attending a board meeting at St. George's Hospital, Hunter had an acrimonious discussion with a colleague; suddenly he ceased speaking, and hurried into an adjoining room, where he instantly fell lifeless into the arms of Dr. Robertson.

His body was examined to ascertain the cause of death. "The carotid arteries and their branches within the skull were thickened and ossified," similar to the changes which have, in later years, been described by Heubner as characteristic of syphilis. "The coronary arteries and tricuspid and mitral valves were much ossified. The aortal valves were also thickened and rigid." These arterial changes were, in my opinion, of syphilitic origin.

Sir Astley Cooper, the Prince of Surgeons, is more than any one else responsible for the profound ignorance regarding the effects of syphilis existing at the present time. In an article on syphilis of the internal organs called "Organic Syphilis," published in the *Virginia Medical Monthly* of July, 1893, (not August, 1894), I quoted as follows from the teachings of this renowned surgeon:

"Sir Astley Cooper, in his lectures on surgery, taught that some parts of the body are incapable of being acted upon by the venereal poison, such as the brain, the heart, and the abdominal viscera." Indeed, he writes: "This poison does not appear to be capable of exercising its destructive influence on the vital organs, or on those parts most essential to the welfare and continuance of life."

Judging from the above, you would think Sir Astley enjoyed about the same advantages in studying the effects of syphilis as our present students of medicine have.

The late Sir William Gull, who was made baronet for professional services rendered to the Prince of Wales, when all England was praying that the life of the heir to the throne might be saved, was once called in consultation by Mr. ———, surgeon. Sir William diagnosed syphilitic lesions of the heart. Mr. ———, surgeon, attempted to

apologize for his ignorance, whereupon the great physician replied, that it was as well that he had not detected it, for *then he would have prescribed.*

The late Dr. Freeman J. Bumstead once told me that the professor of surgery in a leading medical college was teaching his students that gonorrhœa was apt to be followed by secondary symptoms, and *should be treated with mercury.*

Do you wonder that the late Dr. Tilbury Fox said and wrote: "*Dermatology has been as much retarded by having been viewed too much from the surgical, as it will be advanced, from considering it in the future, from the purely medical point of view, in connection with the recent advances in pathological observation.*"

In marked contrast to the teachings of surgical professors stands Hoan-ty, the Chinaman, who lived more than two centuries and a half before the Christian epoch. Hoan-ty "describes chancres, of which he noticed two kinds, one which suppurates freely, the other emits only a serous matter; he noticed also the accompanying tumors. He would appear to have been very well acquainted with the intra-urethral chancre, which he says is easy to detect by the nature of the pus, which it produces, and which is not the same as that of gonorrhœa, and also by the pain felt at a *fixed and hard point of the canal.*"—(Captain Dabry—*La Médecine Chez les Chinois.*)

It was not until men like Virchow, the greatest pathologist of the age, and Ricord, the most renowned syphilographer, and Bassereu, and Clérc, and Alfred Fournier, and in England, Wilkes and Moxon, and Jonathan Hutchinson and Bumstead, of our own country, who has been called the Ricord of America, and other men of now international fame, began their investigations, and not until then were the great discoveries made.

Some time ago a medical friend asked me if I was a believer in the unity or the duality of syphilis. I will as briefly as possible present both views, and you can make your own conclusions as to what my answer to that question ought to have been.

Professor Ferdinand Von Hebra, who died a few years since, was the most renowned German dermatologist. Prior to him dermatological diseases, and nomenclature, were in a chaotic condition. Karl Von Rokitansky, the great pathologist, whose name is always associated with that of Virchow and John Hunter, lived for forty years, you might say, in the pathological laboratory of the great hospital of Vienna. Hebra followed closely the pathological researches of his colaborer, Rokitansky, and in due time brought out that monument to his fame, more enduring than bronze or stone, his work on *Hautkrankheiten*, diseases of the skin.

The daughter of Von Hebra married Professor Moriz Kaposi, who was born under the name of Kohn, but upon his marriage took the name of his native village. Moriz Kaposi is the chief of those who believe in the theory of the *unicists*. They believe in the identity of the chancre and the chancroid—the hard and soft chancre; that is, either may produce a hard, indurated chancre, followed by a bubo, secondary eruption and so forth—in other words, followed by constitutional syphilis.

The great majority of syphilographers of the present day are opposed to Kaposi, and his followers, recognizing as they all do his very great ability, and as being worthy of the mantle of his most illustrious father-in-law.

Those opposed to the unicists are the *dualists*, who claim the existence of dual poisons, one affecting the constitution, and the other causing only a local trouble. In other words, an inoculation from a true chancre, initial lesion, will produce a chancre followed by adenitis roseola, and other constitutional symptoms of syphilis.

To my mind it has proved beyond question of doubt, that the substance taken from a so-called soft chancre—chancroid—has never been known to have been followed by genuine syphilis.

I must confess that microscopically, I can find no difference between a chancre and a chancroid. I have with me this evening, slides that I put up in the laboratory of Professor Schenk in Vienna in 1878. They are marked pre-

putial chancre, and I suppose they are; but if I were to rub the labels off, I do not think there is a microscopist who would positively say that they are sections of chancres or chancroids.

Kaposi says: "It appears to me allowable from a histological standpoint, to regard the hard chancre as different from the soft only in the intensity and suddenness of cell infiltration and cell degeneration, but not in their essence."

Fournier gives four types of chancres, from a clinical point of view, which have become classical, and can be found in most modern works relating to syphilis.

First. The erosive desquamative chancre.

Second. The ex-ulcerative chancre.

Third. The ulcerative chancre.

Fourth. The papular chancre.

The *erosive chancre* consists simply of an epidermic or epithelial desquamation, which merely denudes the derma, without excavating it.

The *ex-ulcerative chancre* attacks the derma superficially, laying it bare, but not actually excavating.

The *ulcerative chancre*, on the other hand, is hollow, excavated, jagged—an ulcer in fact, but an ulcer at the expense of its own tissues.

Finally, the *papular, or elevated chancre*, is situated on a sort of raised plateau, and forms a disk rising above, and sharply defined from the surrounding tissues; it sometimes assumes the appearance of the "ulcus elevatum" described by some authors.

The most difficult form of chancre to diagnose is what is known as the "*multiple herpetiform*" chancre. I have known accomplished syphilographers wait until the development of a bubo and erythema, before they would positively state that an attack of herpes preputialis, where several crops of vesicles existed, with what appeared to be somewhat hardened tissues surrounding them, was the initial lesions of syphilis or not. I have furthermore seen them pronounced to be chancres, when they were not, and *vice versa*.

Dr. Morrow was the first to describe accurately the "*diph-*

theroid chancre." He states that "it consists of a glistening grayish white coating of a leathern consistence, simulating in all its physical characteristics a diphtheritic exudation." The surface is not eroded, but moist and glistening, with no appreciable secretion; the base supple, with no trace of induration. It is intimately adherent to the tissues beneath, and cannot be detached without leaving a bleeding base."

A person who has a true chancre—initial lesion—may deposit the virus on the chancroid of another individual, or the reverse may occur. This lesion is what is known as the "*mixed chancre.*"

When syphilis is inoculated with the scab taken from an infant—as was the practice in former years—the vesicle will go through the phases of a vaccine vesicle, and later the secondary symptoms of constitutional affection will appear, the same as those I described in a former article, where syphilitic blood was inoculated, as in the case of Dr. Bargioni, who voluntarily submitted to be experimented upon with the blood of a syphilitic woman.

Chancres situated at the meatus urinarius have been reported by various authors.

Jullien, in a total of 1,773 chancres collected by himself, reports sixty-nine chancres of the meatus, and but seventeen of the deep urethra.

Bumstead and Taylor report one two inches, and one three inches from the urinary orifice.

Keyes reports two in one of them. It was located one inch and a quarter from the meatus.

Hyde reports two cases.

When a chancre located at the meatus is constantly irritated by the flow of urine, it frequently presents the irregular shape of a chancroid, and phagadema is apt to attack it.

Ricord and Vidal de Cassio have shown that chancres of the urethra by extension to the bladder may terminate fatally.

Langston Parker reports several cases of urethral chancres where severe mutilations of the genital organs have occurred. In one case the urethra was opened on the under

surface of the body of the penis for two inches; he stated: "I can conceive of nothing more horrible than mutilation of this character, which, in spite of all our care and attention, will sometimes take place, if the disease assumes a phagadenic form, and spreads by rapid ulceration of sloughing."

Ambroise Pare, born in 1509, died in 1590, stated: "If there is an ulcer on the penis, and the part is hardened, it will be an infallible sign that the patient is affected with constitutional syphilis."

What is now known as the Hunterian chancre was described by Pare more than a century before the birth of Hunter. Induration at the base, and surrounding the sore, is the most characteristic sign of true chancre, but it is not infallible. It may be a subsequent, as well as an early symptom, and it may not be noticeable on the female organs of generation. Then, again, cauterizations with lunar caustic, will produce a hardness not distinguishable from induration. Generally, it is noticed at the close of the second week, but it may appear later. It is slight at first, but when at its height, is well marked, circular, resembling a pea, and it surrounds and extends over the limits of the sore. It seldom leaves a cicatrix. It usually lasts two or three weeks, but may continue for as many months. Under treatment, its duration is decidedly shortened.

As a rule, a chancre comes solitary and alone, and this is a very important point in diagnosis. Four times out of five a true chancre is single; if multiple, it is so from the first, and comes from simultaneous inoculations at various points.

Of 456 chancres observed by Ricord in 1856, 341 were single, and 115 were multiple. (*Leçons sur le chancre*, 1857.)

Clère found, in 267 men suffering from constitutional syphilis, the chancre single in 324, and multiple in 43, or four-fifths.

Fournier gives the following statistics, relating, however, to women only. Of 203 patients observed, 134 had a sin-

gle chancre; 52 had 2; 9 had 3; 4 had 4; 5 had 5; and 1 had 6 chancres.

He also gives as extraordinary, 1 case where 19, and another where 23 chancres occurred simultaneously.

Fournier inoculated the discharge of 99 chancres upon the patients themselves, and succeeded in but one instance, in which the experiment was performed within a very short period after infection.

Puché states, as the result of his experience, that auto-inoculation of the chancre is only successful in 2 per cent. of cases.

Poissón obtained like results in 52 cases, and Lavoyénne was unsuccessful in every one of 19.

Chancres occur wherever the virus has been deposited on an absorbing surface; 95 per cent. occur on the organs of generation, and on those parts most liable to excoriation, and where the specific virus can find a resting place, as the cervix penis and mucous surface of the prepuce in the male and the labia in the female.

Only the lack of time, and the fear of exhausting your patience, deters me from presenting the tables prepared by Basserau, and Clérc, and Fournier, and Jullien, giving the exact location of hundreds of chancres.

In my article on non-venereal, or unmerited syphilis, I called attention to a great variety of chancres, which occurred on all parts of the body, from the eyelids to the toes. Extra-genital chancres occur in men in the proportion of 6 per cent. of all kinds.

In women, the proportion of extra-genital chancres is much greater, amounting to 15 per cent., an important clinical fact. The usual sight of extra-genital chancres is about the mouth in both sexes, and in women about the anus and on the breasts. Chancres of other extra-genital localities are much less frequent.

Dr. Samuel Wilks, pathologist, and physician *par excellence*, my former instructor at Guy's Hospital, expresses, in terse and admirable language, the symptoms and ills which

occur after the inoculation, or absorption, of the syphilitic virus, as follows:

“From one week to one month, after the local development of the virus, the glans, which receive directly the lymphatics of the part primarily affected, become symmetrically enlarged and indurated, as in chancres of the penis; and vulva, the superior chain of inguinal glans. Acute or suppurative adenitis is not common. The lymphatics may become enlarged and tender, but angeioleuctis is rare. When induration of the base of the true chancre exists, it is by many, and probably rightly, regarded as the first of the constitutional symptoms, ‘the prelude of the diathesis and the local re-action of the general poisoning.’”

Not unfrequently after the local sore has lasted two or three weeks, rheumatoid pains, headache, weariness, etc.—according to Fournier, the third act of the drama of syphilis—are complained of. These are early and sure tokens of systemic infection. They are very commonly followed, in the course of four weeks to two months, by symmetrical exanthemus on the skin, and mucous membranes, and symmetrical affections of the nails, hair, eyes, and later unsymmetrical ulcerations in the mouth, throat, and skin, tending to spread widely, and deeply, with fibre-plastic exudation of the periosteum, connective tissue, muscles, fascia, nerves, viscera, not usually symmetrical, chronic in progress, and attended often with ulceration, or even a sloughing disposition, with tendency to relapse; for when the virus has entered the system, there is scarcely a tissue that may not be implicated, and that always in a specific and characteristic manner, by the exudation of fibro-albuminoid material, modified to some extent by the organ in which it happens; in the solid organs as circumscribed masses, whilst on free surfaces it is seen on the base and border of ulcerous sores, the same as in the primary local lesion. There is quite often entire freedom from any symptoms, lasting for months and even years, as if the virus had been exterminated, but usually certain reminders, in the form of scattered, scaly patches on the skin, as so-called psoriasis, palmaris—sores on the tongue, lips, etc., appear from time to time. So long

as this tendency or state exists, it is evidence of the presence of virus in the system, communicable by direct or indirect means. Either from the prolonged effects of the special toxic agent upon the constitution, or from other concomitant causes, a cachectic condition may come on at a later period, varying from a few months to twenty years, with a tendency to fatty degenerations of the various structures of the body, and, perhaps, to those known as waxy or lardaceous. These are the so-called tertiary symptoms, but are more properly the sequelæ of syphilis. True chancre gives a *relative* and not *absolute protection* against subsequent attacks of the malady.

In my article on "Organic Syphilis," already referred to, I gave illustrations of grave mistakes in diagnosis; I closed the subject as follows:

"The cases reported above show that organic syphilis is not detected in many cases by the physician, and it will never be known how many have died, or may die, where the cause of death is certified as coming from *morbis Brightii*, *disease of heart*, *apoplexy*, *phthisis pulmonalis*, *marasmus*, etc.; but where, in the dim back-ground, stands the grim monster Syphilis."

"They also show that where a proper diagnosis is made, what brilliant results follow the proper treatment."

The immortal Shakespeare thus describes the effects of Lues Venerea, in his "Timon of Athens," Act IV, Scene III, in an address to Phrynia and Timandra:

* * * * Season the slaves

For tubs and baths, bring down rose-cheeked youth
To the tub fast, and diet.

* * * * *

Consumptions sow

In hollow bones of man; strike their sharp shins
And mar men's spurring. Crack the lawyer's voice,
That he may never more false title plead,
Nor sound his quilllets shrilly; hoar the flamen
That scolds against the quality of flesh
And not believes himself; down with the nose,
Down with it flat; take the bridge quite away,

* * * Make curl'd-pate ruffians bald

And let the unscarred braggarts of the war
Derive some pain from you.

1750 *M. Street N. W.*

ART. II.—Some Defects in the Management of Institution for the Insane in Virginia.

By ELLIOTT T. BRADY, M. D., of Chatham Hill, Va.,

LATELY ASSISTANT PHYSICIAN TO SOUTHWESTERN HOSPITAL FOR THE INSANE, AT MARION, VA.; FORMERLY ASSISTANT PHYSICIAN TO THE [PENNSYLVANIA] STATE INSANE ASYLUM; MEMBER MEDICAL EXAMINING BOARD OF VIRGINIA, ETC.

As the title indicates, this article will deal with some of the imperfections in the treatment of our insane in Virginia. Lest I should be misunderstood, I wish at the outset to state that I will treat the subject from the standpoint of humanity, professional, and civic pride. I have, and hope to have, the kindest regard for the members of the several staffs and boards of directors, and have a friendly interest in every institution in the State, and to all of these my remarks apply. A friend can best see a friend's mistakes, and I only ask such as may be inclined to take offense, to remember that these missiles are aimed by friendly hands, and for the ultimate good of all. Neither do I think that I should be censured for doing what has been left so long undone, and pleading in behalf of the patients.

Should discussion follow, I hope, for the economy of time and space, that the time-worn defense of our institutions, that "there are others worse," will not be used, it being neither pertinent nor proper. The shame to us and to our State lies in the fact that there are others better.

Without further preface, I will begin with the plain statement—one that is, I believe, generally admitted—that our institutions for the management and treatment of the insane are improperly managed. In support of this proposition, it will be impossible to mention every little detail of mismanagement, but what I shall call attention to will, I believe, be sufficient to prove the correctness of the statement. The palpable and culpable neglect of our insane may be traced to the appointing power, the Governor; the directing power, the boards of directors; and the actual controlling power, the superintendents.

The Governors err in appointing as members of the boards of directors of hospitals for the insane, etc., men who are unfitted for the position, by reason of their being fully occupied with their own affairs—their remoteness from the several institutions preventing attendance or even interest—and finally their utter ignorance of the needs and purposes of the institutions they are to control. This error has been customary, and is on that account the easier for each succeeding Governor to commit. It is, however, none the less an error. Again, it is equally true that our Governors have, as a rule, appointed men as a reward for political support. Not that they are pledged to so appoint them, but, none the less, it will be found that the appointees were adherents of the Governor who appointed them. This error can be easily remedied by appointing as directors men who live near to the institutions, who are capable, interested, and who will avoid the errors about to be pointed out.

Our *boards* are culpably negligent. They visit their institutions only at stated times and when notified, and naturally find everything on dress-parade. They listen to reports from the superintendents, audit accounts, and leave, after a stay of perhaps six hours, most of which time has been spent in auditing accounts and eating. They do not enquire into the needs and complaints of their patients, the character and preparation of food, or anything else. They accept the reports without question, and ask for no suggestions, their sole aim apparently being to get through with their duties as soon and as easily as possible. Listless and apathetic, they give no attention to the subject, and between meetings seem to forget their connection with an institution. They do not read upon the subject; they do not visit well-managed institutions; they do not consider the welfare of the inmates, and they do consider only expense. A dollar per capita saved in a year is to them an evidence of sagacious management. A patient's suffering or an acute case made chronic are of little moment if the "report" shows a decrease of cost.

Another flagrant error is in the *choice of officers*. Men are chosen to fill the responsible positions of superintendents and assistant physicians who know absolutely nothing of the duties they are to perform—men, frequently, who have never spent a month even in an institution for the insane, and who never heard a course of lectures on insanity. This should not be, and is inexcusable. Having chosen their officials, they seem content to merely drag along, hopelessly drifting, and year after year witnessing management and giving ear to reports which are nothing but excuses for the year's bungling. No effort is made to correct abuses; none to educate the men in office; none to alleviate suffering or improve methods; none to encourage original or scientific investigation; none to elevate the standard or to right the wrongs.

And what excuse do they offer for this neglect? They seek to hide under the excuse that "the Legislature does not give them proper support," and "that the amounts allowed them are not sufficient to give more than almshouse support." Granting the truth of this, for it is true, can the Legislature be blamed? The patients get almshouse treatment, almshouse food, almshouse clothing, and *almshouse neglect*. Can they expect more than almshouse support? The Legislature is representative of the people, and the people are both charitably and liberally inclined. Show the people that they are trying to do their best with the means at hand, to alleviate suffering, to give proper food and clothing, scientific treatment, adequate attention, and capable supervision, and see how liberally and promptly the Legislature will respond.

The real fact in the matter is that our boards are doing nothing with what they have, and our Legislatures naturally doubt their intention or ability to properly apply more. Let our boards select properly-qualified men as superintendents and physicians (they are rare in our State, but, if not to be found, let them try to qualify the ones they now have for their positions). Having selected them, let them require thorough work from each. Let them send each physician,

including superintendents, to some high-grade institution for at least one month in each year, to actually serve as an assistant for that time. A cursory visit is farcical. By actually serving as suggested, they will get a grasp of method and detail that only service can give. By changing the institutions thus visited, your superintendents will in a few years be both capable and practical, and your assistants qualified to succeed them. Board members would be benefited by similar visits, your institutions become high grade and a source of pride to the State and profession, instead of a cause for humiliation. Board members should visit their institutions frequently and without notice. No week should pass without a thorough inspection by some member of the Board, and the inspection should be, as far as is possible, unknown to, and certainly unaccompanied by, any member of the official staff. Before passing to the superintendents, let me impress the fact that although it is no excuse, yet it is a fact, that many of their errors are due to leniency, apathy, and neglect on the part of the boards of directors.

When all is said, however, most, if not all, of the bad management may be said to be the fault of the superintendent. He should lead, suggest and control, and the boards will usually follow his ideas. The faults of your State superintendents are too numerous to mention specifically. Some, however, are so patent and so objectionable as to deserve special mention; all may be included in the phrase—absolute neglect of patient's interests. This neglect is both indirect and direct. Indirect, in that they do not try to qualify themselves, their assistants, or their employees. Directly, in the neglect of comfort, improper food and clothing, incapable attendance, insufficient supervision, non-employment, non-examination, non-treatment, and the constant sacrifice of the patients' interests to make a good (?) financial showing. After the qualification of the officials, the most crying need is discipline. Our institutions are all without it. There being no discipline, it follows that there is no individual responsibility; and being no individual responsibility, there must be, and is, carelessness and neglect. Absolute military discipl-

line on the part of officers and employees, is a *sine qua non* in the management of such institutions. Half-way measures are abortive, and there should be no compromise. The attendants should be responsible only to the assistants, the assistants to the superintendents, and the superintendents to the boards. Each employee's duties should be specific, and no excuse allowed. This is easy to bring about, and being devoid of expense, its neglect is inexcusable.

Character of attendants.—Where, in our State institutions, can we find a trained nurse as an attendant? Applicants for positions as attendants need two qualifications: influence and muscle. Influence means the support of political workers and board members. These being equal, the largest and most muscular applicant secures the appointment. Many are uneducated and unrefined, some from corn-fields, some chambermaids, without intelligence, tact or sympathy, others refined and good material, but worthless from lack of training—all seeking the positions, because as now conducted they are easy places. Consider the feelings of a timid and nervous patient when at the mercy of the average attendant.

How remedy this wrong? Let attendants be selected and trained as companions and nurses—not as “keepers.” Take them the first three months at a nominal salary. Let the staff train them systematically and thoroughly; then raise their salaries a few dollars each month until the present salary is reached, continuing the training and lectures; and behold, in a short time you have a capable set of trained nurses and actually save expense. The staff does the work and brighten themselves at the same time. Retain the competent, and encourage good work by increasing the pay in proportion to the duration of service, and at the same time discourage poor work by *dismissing the shirkers*. There is nothing like an occasional dismissal as a stimulus to discipline and duty. Procrastinating with worthless attendants at the expense of the patients welfare, is criminal neglect. One not willing to take the course of training above indicated, is unworthy of a place on the wards. There are too many bruises and broken bones in our institutions, and

it is due to lack of discipline. Though some attendants are brutal, they are fortunately rare, and these bruises are not, as a rule, inflicted by them, but they are allowed by them and happen while one patient is attending to another—a duty which attendants only should be permitted to perform. Here is where the lack of individual responsibility shows itself. Careful selection, watchful physicians, disciplined, trained nurses, and specific duties will remedy this.

The professional neglect of patients is harder still to excuse.—A patient is brought to our institutions; he is assigned to a crowded ward; a few questions are asked of the friend accompanying him; the patient glanced at, put upon some “job lot” house tonic—possibly good in itself, but wholly unsuited to the individual case. This is his treatment. If he has some very evident acute attack he is looked after; if not, he is merely looked at. There is no careful physical examination; no close study of the patient’s habits. He is simply one of a herd. Hundreds of cases leave our institutions with grave physical abnormalities undiscovered by those whose duty it is to recognize them. This is sad; but how much worse is the fact that many such diseased conditions are recognized but not treated, and the patient sent out to begin again the struggle, heavily handicapped by that condition. Can this be excused? Why claim to be endeavoring to correct mental ills, when physical abnormalities upon which they largely depend, are left to prey upon and impress a mind already broken by the strain? This is no fanciful picture; it is real and frequent in our State institutions. Patients, upon admission, should be examined at once, thoroughly and systematically, and the necessary steps taken to correct physical as well as mental irregularities.

Some claim that occasionally amongst women such an examination gives rise to unjust and improper suspicions on the part of the patient. Suppose it does. Does that justify universal negligence? An insane person cannot be expected to look at things in a sane manner, and no one ever heard of a cured patient complaining of too much attention.

The hundreds left to brood over what even to their disordered minds is very apparent neglect, far overbalance the few who would temporarily object to an examination. Let the examination be made in a private room, in a scientific manner, without undue exposure, and in the presence of one or more nurses, and there can be no possible objection. A physician who would sacrifice the welfare of his patients for fear of arousing the suspicion of one or two is lacking in moral courage, must have a low estimate of his own character, and is unworthy of his calling.

Another point deserving of attention is the so-called "*night-watch system*." It is culpably, indeed, criminally, negligent in our State institutions. A physician who would in private practice allow such negligence of his patients at night would be jeered at. Then why permit it in our institutions? What is the present system? One male night-watch patrols the outside buildings and male wards. A woman does the same for the female department. They glance in the rooms; if there is no commotion, they pass on. True, it is their duty to change soiled patients, and aid those who need it; but how can this be done? This cursory glance at irregular intervals can give them no intimation of a patient's needs. The consequence is, that patients lie in their filth all night, reeking with the disgusting odors which have been concealed from the so-called night-watch by the bed-covering. Others have convulsions, bruise, batter, and strangle themselves, perhaps smother, with their faces buried in a pillow; others, again, masturbate incessantly; still others suicide, and yet no one pleads for them. "Alas for the rarity of Christian charity." Oh, you superintendents and board-members, where is your Christianity, your humanity, your sense of duty?

And *the remedy* is so easy. Let the feeble, the paralytic, the epileptic, the masturbating and suicidal cases, and the acute sick have immediate and constant night supervision. Let them be taken to one ward for the night, and let a competent nurse sit with them and minister to their wants promptly. One attendant now sleeps in the corridor of

each ward. Why not sleep in his room? A sleeping attendant is of no service. The night nurse should be awake and watchful, and report each patient's condition at least hourly. The patrolman can see that they do their duty. If an epileptic has a convulsion, he can be prevented from injuring himself; the masturbator can be kept from practicing the habit; the suicide foiled; the paralytic and demented cleaned as soon as soiled; and last, but not least, the physician will know how much or little each patient sleeps, the condition of their bowels and bladder, whether restless or thirsty, and many other little points which will be of incalculable value in helping him to a correct opinion of his cases. As now arranged, the nights of his patients are to him as a sealed book.

To carry out this suggestion, expense need not be considered. The regular attendants can serve in rotation, and additional room gained, though this is by no means to be desired. If, however, the expenses are increased, it is none the less demanded by justice, humanity, and common sense, if not common decency. It is vital in importance.

The food supply for the patients is, as a rule, ample in quantity, but poor in quality, monotonous in variety, and disgustingly prepared. Cooked by novices, and served as for swine, even the healthy appetite is lost, and the stomach revolts at the imposition. Special diet, aside from oatmeal and eggs, is rare, and even these are prepared in bulk, and no effort made to serve attractively. Competent cooks are required. Every properly trained nurse knows how to prepare special diet for his or her patient, and should be required to do it. Neatness in serving should receive attention. Appetites should be coaxed and individual tastes considered. This is now sadly neglected. Tastes naturally differ, and they should be studied.

The assistant physicians.—These, like the superintendents, have been, and are chosen in much the same haphazard way as the attendants. Possibly they are up to the average in their private practice, but they certainly do not, as a rule, possess qualifications which peculiarly fit them for this spe-

cial work. Without experience in this line they begin their labors. Possibly they may be enthusiastic and for a time strive to do their best; but are they encouraged? Are they given opportunities to learn, to originate, or even to investigate? Alas, no. No original work countenanced, no libraries, no visiting of other institutions, no pathological work, no teaching of nurses, no proper examination of patients, no individual responsibility—can we wonder at their becoming mere automata—doing, saying, teaching, and learning nothing? Stimulate them, encourage research, reward originality, provide for them libraries and laboratories, send them out in search of light, and demand of them individual responsibility and individual work. Our physicians are too few in our State institutions, and they are too poorly paid. Some claim that fifteen and twenty-five hundred dollars is more than they make in their private practice. I do not believe this; but if so, why employ such? To get the best work we must have the best workmen, and they must be properly compensated. Further, it must be borne in mind that this is not private work. No physician in private practice averages twenty-five patients daily, while in our institutions two hundred is the number assigned to each. Then consider the privation of home comforts, the rearing of families inside the walls, the lack of social interests, the giving their whole time night and day to the work, and the continual mental strain upon them, and no one can justly deny that they deserve more salary. There should be an increase of the medical staffs until no physician has more than seventy-five patients. Increase that number and you prevent individual work. This branch of expense must be increased. More and better physicians and adequate compensation is the need. The State cannot pay too little for poor service, but the reverse is equally true, that she cannot pay too much for competent service.

Employment.—Our patients are not employed. This may seem odd to those who read the reports of our institutions. It is, however, true. Visit them and see the dull apathy evinced on every side. Hundreds sit disconsolately brood-

ing over their hobbies—some drowsily sleeping away their existence, a few actually employed. The able but unwilling ones sit idle, while the willing but unable ones are over-taxed. Patients should and must be employed. Some ask how? A detailed reply would be tedious here. Suffice it to say, that it is done elsewhere, and it is the duty of the management to know how. Nowhere can there be more inducements to offer—a little tobacco, an added relish at table, a special paper or book to read, increased liberty, and a host of such devices as to tempt the most obdurate. Provide proper out-of-door employment, and see that it is taken advantage of.

Reports.—The reports of our institutions, as of most, are fit indices of the management, and are to be blamed both for what they do and what they do, not contain. Meaningless jumbles of statistics without explanatory comment, misleading, useless, and unsatisfactory, they would serve with a change of date for all time. No report of progressive effort, no clinical memoranda, no suggestions of new methods, nothing but complaisant repetitions of self-gratulatory platitudes, accompanied by the proud boast that by stinting the patients they have saved this great Commonwealth a dollar a head, and closing with a wail for more funds—not to improve their accommodations, or increase the patient's comfort, but to build other pens to house a few more of the unfortunate victims. It is to be hoped that they will get no more for such purposes *until* they demand and get adequate attention, and proper supervision, food, clothing, and treatment for the ones now on hand. Properly conducted institutions will make room by cures for many proper admissions. May our superintendents rid themselves of the idea that their duties are solely to dole out to unfortunate citizens the alms of a grudging State, and learn that they are to aid and direct in the application of skill, care and comfort which are due a citizen from his State. Until then we cannot hope to rank amongst those States claiming humanity and benevolence as their guide in caring for these doubly unfortunate wards.

The imposition of the burden of financial management upon our medical superintendents has fostered this pauper idea, and we should have this placed where it by right belongs—in the hands of the stewards—leaving to the physician his strictly professional duties. The system of board-management in our State is needlessly complicated, forbids uniformity or comparison of management, and should be improved, and this subject I hope to present fully at some future time.

In presenting the above remarks, much has been sacrificed to brevity, and this I regret. My opinions are of course individual ones, and are given as such and for what they may be worth. The subject is well worthy of investigation. Having served in several institutions for the insane, I speak advisedly, and not from mere theoretical grounds.

For fear that I may be misunderstood, notwithstanding my prefatory remarks, I again state that my motive is wholly humanitarian, and that my remarks apply to every institution for the treatment of the insane in Virginia. In not referring to the good points in our institutions, I do not mean to infer that they have none, but my paper was written to point out some of their defects and the remedies, and I have confined myself to my subject.

Proof Enough.

The *Ohio Merchant* says a little boy came in with his clothes torn, his hair full of dust, and his face bearing unmistakable marks of a face-to-face conflict.

"Oh, Willie, Willie!" exclaimed his mother; "you have disobeyed me again. How often have I told you not to play with that wicked Staplefod boy?"

"Mamma," said Willie, wiping the blood from his nose, "do I look as if I had been playing with anybody?"

Sex No Barrier in Dissection.

We see it stated in several exchanges that male and female students dissect together in San Francisco, Paris and Brussels.

ART. III.—An Unusual Case of Pelvic Enucleation Per Vaginam, Cancer of the Cervix; Fibroma of the Fundus and Tubo-Ovarian Abscess—Recovery.

By J. WESLEY BOVEE, M. D., Washington, D. C.

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Vaginal hysterectomy, for various conditions, is by no means a new or infrequent operation, for nearly three hundred years ago Schenk, of Grafenburg, collated a series of cases. Many conditions may complicate a vaginal hysterectomy making further enucleation than that of the uterus necessary for the future welfare of the patient, or even, as in my case herein related, as a preliminary step to the hysterectomy.

These complications are particularly interesting at the present time by reason of the animated discussion on the subject of removal of the uterus, with diseased appendages, by the vagina.

This method of procedure is strongly advocated by many able operators and as vigorously opposed by others equally able. My experience has not been such as to cause me to favor that method, though I have never had any alarming results following vaginal operations save in one case—a ligation of the uterine arteries.

The case I have to report is of great interest as to the diagnosis of pelvic abnormalities, the presence of three different severe pathological conditions, the low vitality of the patient and the pathological kidney complication. The case is as follows:

Mary M., 35 years; widow, was brought to my office by Dr. Geo. N. Perry, of this city, about October 10th last, with the following history:

Eleven years ago she had an abortion at five months, and was never again pregnant. A few years ago an abscess opened and discharged a large quantity at the umbilicus, and later another formed that ruptured into the bowel—pus coming freely through the sphincter ani muscle. Since that time she has had at frequent intervals some pain in the left inguinal region. Her menstrual flow has occurred bi-weekly

during the past year, and has been very profuse. Her principal complaint was weakness and hæmorrhage since last January.

She was a very intelligent mulatto woman, well educated, refined, and the offspring of a former prominent member of the National Congress. She was thin and weak. Her pulse was feeble, and she weighed 120 pounds.

An examination revealed a scar on the umbilicus that probably resulted from opening of the abscess at that point, a growth on the posterior wall of the cervical canal and posterior lip of the cervix uteri; a uterus firmly fixed with a boggy mass on its left and a harder one to the right of it.

Believing the cervical growth to be cancer and the lateral masses to be of an inflammatory rather than malignant nature, I advised removal of the uterus and adnexæ. For that purpose she entered my service at Columbia Hospital October 14th. Her urine was loaded with albumen, and a number of granular casts were noted. The anæsthetizer disliked administering even chloroform as he had examined the urine. But preferring the risk incident to the anæsthetic to that from delay, if cancer was present, I operated the following day—Drs. Perry, T. L. Madden, of Nashville, Tenn., and others being present.

The cervical growth was cut away and the denuded surface touched with the thermo-cautery. Vaginal hysterectomy was begun with the intention of leaving the lateral diseased structures, but in attempting to liberate the cervix posteriorly the left mass was opened, and a discharge into the vagina of fully four ounces of thick pus occurred. I then washed out as well as possible the abscess cavity and vagina, and proceeded with the hysterectomy. It became necessary to remove the mass to the right before the uterus could be liberated, and with a strong vulsellum it was twisted out of the broad ligament, proving it to be a fibroid tumor three inches in diameter.

The uterus was then removed by ligatures, the mass to the left being torn out afterward. This was a tubo-ovarian abscess having a number of pus cavities, and was four inches in diameter. Considerable hæmorrhage occurred from this resulting cavity—probably from the ovarian artery. The whole tract was carefully cleansed, and the space occupied by the abscess, as well as the opening below, was packed with iodoform gauze. Two hours later it was necessary, on account of hæmorrhage, to repack it. After this the patient progressed splendidly. At midnight of the (8th day) 15th

the nurse found her sitting in a chair with her shoes on, but no trouble followed it.

November 15th.—Her weight has increased just 25 pounds, and she feels perfectly well.

November 20th.—Discharged—apparently cured.

The condition of the cervix could not be mistaken for anything other than cancer. The history of previous suppuration was sufficient to diagnose pelvic suppuration as being present, though not necessarily of both sides, as was diagnosed. Perhaps an examination under anæsthesia, together with due consideration of the race of the patient, would have permitted a diagnosis of the fibroid tumor found in the right side of the uterus. 'Here we had present cancer of one part of the uterus and fibroid degeneration in another, with firm adhesions to the surrounding structures that a few years ago would have been diagnosed as an extension of the cancer and the consequent abandonment of the case. The tubo-ovarian abscess was quite large, and after its removal, I was obliged to combat some hæmorrhage from the ovarian artery, which led me to consider gravely how almost helpless we would be in severe hæmorrhage from this artery after the vaunted operation previously mentioned, of complete removal, vaginally, of the uterus and badly diseased appendages.

The feeble condition of the patient, together with the bad state of her renal functions, would ordinarily cause one to wait for improvement before operation. A large proportionate quantity of albumen, together with granular tube-casts in the urine, furnish sufficient reason for delaying a capital operation; but when cancer is present in such a limited condition as to furnish hope for its entire removal by an operation, and *per contra* the knowledge of positive and distressing death by delay, we will be sure to attack the cancer, unless death from the kidney lesion appears to be very certain. The failure of infection as a sequel to rupturing the pus cavity and deluging with pus the field of operation, shows practically the innocuousness of the contents of some tubal and ovarian abscesses—especially of long standing.

The recovery and great improvement of the patient shows

the advisability of the operation and the deteriorating effects of her maladies.

November 27th.—Dr. Perry, at my request, brought me a sample of urine from this patient that had an acid reaction; a specific gravity of 1.018; no trace of albumen, and no renal tube-casts.

1404 *H Street, N. W.*

ART. IV.—Double Uterus—Pregnancy of the Extra One, Resembling Abdominal Pregnancy—Anatomical Peculiarities—Abdominal Section—Normal Delivery of Six-and-Half Months' Fœtus—Death Eight Days After Operation, or Four Days After Natural Delivery—Unique Case.*

By R. O. OWEN, M. D., of Lynchburg, Va.

The following case of peculiar abdominal surgery has fallen into my hands recently. It presents some peculiarities which, in many respects, differ from any case of which I have been able to find record:

On the 10th of September last, I was telegraphed to come to Lynch's Station to see Mrs. W. B. A., of White Rock, Va., in consultation with Drs. J. J. Board and W. R. Arnold, and to come prepared to perform an operation for extra-uterine pregnancy. It was impossible for me to go on that day; but on the 12th I went down, and carried with me Drs. R. K. Taylor and Bernard Moore to assist me.

Our patient, the wife of a young farmer, was twenty-five years of age, and gave the following history: Married four years; had been delivered of a healthy living child two-and-a-half years ago, after an easy and normal labor of about five hours. Six-and-a-half months ago there was cessation of her monthly periods, and following this were the usual symptoms of pregnancy.

About the 15th of July last, with her two-and-half years' old child in her arms, while walking down to her stable-yard to oversee the feeding of her cows, she suddenly felt a peculiar pain in the right iliac region, which she described as a "sudden, sharp pain, followed by a peculiar sick feel-

* Read before the Lynchburg Academy of Medicine, Tuesday, October 9th, 1894.

ing, lasting several days." This condition was complicated by an almost complete procidentia, which was reduced by her family physician, Dr. D. C. Ward, of Leesville. The uterus, at that time, did not present the appearance of being pregnant, except that the cervix was patulous. Her symptoms gradually subsided, until about the 1st or 2d of September, when she was taken with pains resembling those of the second stage of labor. These pains increased so markedly that she was sent to Lynch's Station and placed under the care of that most excellent physician, Dr. J. J. Board, with her own physician, Dr. Ward, and Dr. Wyatt R. Arnold in consultation.

When I arrived on the 12th, I made a very careful examination, the result of which was as follows: History of suppressed menses for six-and-a-half months, and all other subjective symptoms of pregnancy. Palpation revealed a child, whose position could be easily made out through the thin abdominal walls of the mother. Observation revealed the enlarged abdomen, and the movements of the child could be plainly seen and felt. The foetal heart-sounds could not be detected. A most peculiar thing was the rapidity with which the child would change its position within the abdomen. There were violent pains, expulsive in character, which were identical with those of the second stage of labor. Examination per vagina, revealed the bluish hue of the vaginal mucous membrane to which so much importance is attached by some obstetricians as a sign of pregnancy. The os was very soft and slightly dilated. The sound slipped in the uterine cavity easily of its own weight, and was very freely movable within the uterine cavity. As far as it could be felt through the vagina, the uterus felt like a moderately subinvolved womb. Examination through the rectum revealed the body of the uterus apparently about five inches long by three to three-and-a-half inches broad. In character, it seemed firm and movable. Vaginal examination failed to elicit anything when ballottement was practiced.

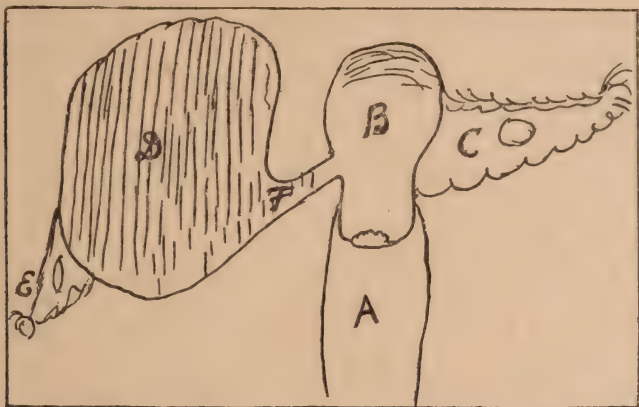
The foregoing results of our examination; the uncontrollable pain of our patient; the history of the case on the 15th of July, and the various phenomena which followed that day, all combined, justified, in my opinion, the diagnosis of one of two conditions—either an extra-uterine pregnancy (probably tubal), which had ruptured at that time (15th of July) without the usual accompaniment of fatal

hæmorrhage; or, of that much-doubted condition of a true abdominal pregnancy. After duly considering all points, and after a consultation with my colleagues, I determined to operate.

The patient was prepared antiseptically and the anæsthetic (chloroform) was begun by Dr. R. K. Taylor—certainly one of the most competent and skillful chloroformists in the State. Her condition became alarming under the anæsthetic—her pulse falling to less than sixty beats per minute and her respiration below eight. Feeling certain that the operation, under these circumstances would prove fatal, I concluded to postpone it a day or two longer, though holding myself in readiness to operate at any time should any more alarming symptoms supervene. On the following Friday, the 14th instant, I operated.

The patient being anæsthetized, I made my incision in the linea alba, about seven and-a-half inches long. There was some little delay in opening the peritoneum, probably five minutes, owing to the excessive oozing from the cut surfaces of the abdominal walls. This being controlled, I opened the peritoneum. I was then confronted by one of the most startling and, I must say, peculiar conditions ever seen by any surgeon. There, in plain view of every one, lay a pregnant womb, differing from the normal pregnant womb in but two respects—one, the abnormal thinness and softness of its walls; and the other and most peculiar condition was that its muscular striæ were in the most beautiful and perfectly parallel vertical lines. There was not a line to indicate a single horizontal or circular fibre, simply the fibres running vertically, or parallel with the middle line of the body. I passed my hand into the cavity of the abdomen over the convexity of and around the womb, and found that, running off from the right side of her natural womb (which I shall hereafter call womb No. 1), was a clearly defined tube apparently two-and-a-half ($2\frac{1}{2}$) to three (3) inches long, and from one (1) to one-and-a-half ($1\frac{1}{2}$) inches in diameter, to which the pregnant womb was attached. The direction of this tube was downward at an angle of about forty-five (45°) degrees, slightly forward and to the right. Down low in the right iliac fossa, and normally attached to the pregnant womb, was the right ovary, Fallopian tube, broad ligament, etc., all apparently normal. Sweeping my hand back over the pregnant (No. 2) womb, I passed it into the left side of the abdomen. There, near the middle line and

deep in the pelvis, I found her natural womb (No. 1), and on its left side were the appendages, all in normal condition. Womb No. 1 was, as before stated, somewhat sub-involuted, but otherwise natural.



A—Vagina. B—The normal womb (No. 1). C—Its appendages. D—The abnormal (pregnant) womb (No. 2). E—Its appendages. F—The communicating channel between the two wombs.

Upon finding this condition of things, I resolved to resort to the very simple expedient of raising the pregnant womb in the abdomen, so that the tube by which it was attached to the normal womb would have a *downward* direction at an angle of forty-five (45°) degrees toward the natural womb (No. 1), thence to the vagina, rather than upward as I found it, thus hoping that by the aid of gravity she would be delivered per via naturalis—remembering that the contraction of these vertical fibres, which by their contraction before had tended to force the child deep into the right iliac fossa, would *now* by their contraction force it through the communicating tube into womb No. 1, which was well softened and dilated, and thence get a natural delivery.

I raised the womb and at the same time requested Dr. Arnold to see if he could get his finger into the natural (No. 1) womb, a thing in which we had failed before. Dr. Arnold, as I forced womb No. 1 down, did succeed, and beyond our expectations, for he introduced his finger tip not only into womb No. 1, but into the tube which was the communicating channel from womb No. 1 to womb No. 2.

After raising up the pregnant womb, as before described, I closed the abdomen in the following manner: I first stitched the flat approximated surfaces of the peritoneum by close interrupted sutures of fine catgut. I then drew together the muscles and transversalis fascia with a second row of catgut interrupted sutures, and united the external womb closely by the continuous silk suture. The abdomen was then thoroughly washed with a 1-1000 solution bichloride, and freely dusted with aristol. This was covered with a large layer of iodoform gauze, then a layer of borated cotton; then another layer of gauze, and then a large square of aseptic oiled silk, and the whole secured by a broad flannel bandage.

The patient stood the operation well, and was, when I took the train at 6 P. M., in as good a condition as I could wish or expect. At midnight, her temperature was up to 102° , with a pulse of 100. On the following day at noon the temperature was 100° and the pulse 85. This continued till 9 o'clock Sunday night, when after a short and easy labor she was delivered naturally of a dead male child which weighed, with the placenta, about three pounds, or a little over.

I went down to see her on Monday and found her with a slight tenderness along the line of the incision, no tympany; pulse 78, temperature $98\frac{1}{2}^{\circ}$; a rather free lochial discharge with a bad odor; constipated, and a very slight jaundice. I gave written orders for vaginal douches of solution bichloride 1-3000 every four hours till the odor should be controlled. This was not done, but by mistake of the nurse the bi-chloride was given by enema. I ordered sodii phosphate one part, and Rochelle salt three parts, to relieve jaundice; enema to relieve rectum; morphine sulph. hypodermically, to relieve pain; free stimulation, hot milk, brandy, etc., without any *increase of pain or rise of temperature*, with the abdominal wound united by *first intention*. She gradually sank, till on Thursday morning, at 2 A. M., she died. I was not fortunate enough to have a post mortem, but am satisfied that death ensued from some sepsis, coupled with the combined shock of the laparotomy and subsequent labor.

I have searched carefully to find any similar case on record, but so far have been unsuccessful. There are, of course, on record many cases of double uterus—a few of double uterus and vagina—but none, I believe, so unique and re-

markable as this. I am satisfied that in the formation of the embryo there must have been some primary deformity of the original Muller's filaments even before the changes took place which gave them the dignity of the name, Muller's ducts, and that when this change did take place, there was either a double set of ducts formed, or that womb No. 1 was primarily developed from one duct, while womb No. 2 was developed from the other.

Another interesting feature was the presence of a condition of sub-involution in womb No. 1, showing that the first child had been therein conceived and from it delivered.

While it is a matter of regret to me that the circumstances were such that I could not have a post-mortem, still I do not think it would have thrown much more light on the subject, as my interpretation of the condition, as above-mentioned, was verified by those present, and especially by Drs. J. J. Board and Wyatt Arnold, to whom I feel most deeply indebted, not only for their many valuable hints, but for the great practical assistance given me.

Finally, I am well aware that among those of my fellow-practitioners who hear this report there will be more or less diversity of opinion, as to what course I should have pursued, when upon opening the peritoneum I found the conditions as before stated. I have only this to say in that connection, that I believed by elevating the womb and allowing the child to be delivered naturally, I markedly decreased the danger of fatal hæmorrhage, as well as the danger of septic infection within the abdomen, and I somewhat doubted if (remembering its irregular contraction) I could get stitches so close as to make it certain that there should be neither septic oozing or infiltration into the abdominal cavity.

The above pen and ink sketch will explain the conditions as I found them.

919 Church street.

ART. V.—**Pulmonic Fever (Croupous Pneumonia)*.**By **HENRY B. DEALE, M. D.**, of Washington, D. C.

The subject of this paper is one upon which our views have recently undergone a complete change as regards its nomenclature, etiology and classification from a long accepted position to one of another class.

I fully realize that a paper to have real value in these days of advanced medicine, must possess more than the close observations of bedside attendance, which is the usual lot of of a general practitioner; it must prove its bedside deductions by chemical, bacteriological or pathological investigation before it merits a position of such value. I regret that it has not been possible for me to prove the opinions advanced in this paper by such methods, but I thought a resumé of the present theories, if they are still only theories and not facts, might be of some advantage to us, and might elucidate certain obscure phases which necessarily arise in the development of new ideas and opinions.

So radical has been the revolution brought about by bacteriological research in croupous pneumonia that even the name itself might with propriety be changed. I have presumed to designate it *pulmonic fever*—a name I do not find given by any of the authors I have consulted on this subject.† The name “pulmonic fever” suggests itself when we consider the analogy existing between it and enteric or typhoid fever.

The name “croupous pneumonia” gives an erroneous impression. One might infer that the pathogenesis was in some way similar to broncho or catarrhal pneumonia, but

*Read before the Clinico-Pathological Society.

†NOTE BY EDITOR.—The name “pulmonic fever” was years ago introduced by Dr. Austin Flint (Treatise on *Prin. and Prac. Med.*, 6th edit., 1886, page 152; retained in 7th edit., page 64). The late Dr. Wm. C. Dabney, of University of Virginia, also used it in his *Lectures on Practice*, edit. 1891, page 89. The French synonym is given in Pepper's *Syst. of Med.*, Vol. III., page 307, edit. 1885, as “fièvre pneumonique.” “Lung” or “pulmonic fever” is a common name used for years by practitioners of this section to designate croupous pneumonia.

we now know such not to be the case; pneumonitis is nearer correct, but it applies equally to broncho-pneumonia.

Pulmonic fever was formerly considered an inflammatory disease of the lungs, and is treated even now in the various text-books under diseases of that organ. According to our present knowledge such classification is wrong and misleading; no more should it be treated under diseases of the lungs than typhoid fever should be classed under diseases of the intestines. It is an acute, specific, infectious fever, characterized by a peculiar inflammation of lung tissue with constitutional disturbances of varying intensity.

I have seen fit often in this paper to compare pulmonic fever to typhoid fever as a type of an acute, specific, infectious fever with a peculiar localized inflammation in the intestines, just as the localized inflammation of the lungs in pulmonic fever.

It was interesting in looking over the literature to find how several investigators in different parts of the world presented, at about the same time, the results of their bacteriological research, and it is gratifying to us to know that an American investigator, Sternberg, first, in 1880, discovered that a bacillus, often normally in the saliva (that is in about 20 per cent. of cases), caused a septicæmia when injected into rabbits; and later, in 1885, in experimenting with pneumonic sputum, he identified the *diplococcus pneumoniae* with the micrococcus previously discovered in the saliva.

The *diplococcus pneumoniae* is lancet-shaped or oval—one end being more pointed than the other—occurs often in pairs, though it may also be in chains of four or five, and is sometimes in a capsule; hence the name “*diplococcus lanceolatus capsulatus*.” Its designation as a *diplococcus* is objected to by some bacteriologists, because it does not always occur in pairs as its name suggests. It is variously named by the different observers, among whom are Pasteur, Talamon, Frankel, Weichelbaum, Flugge, and Gamaleia; practically the discoverer or the name of the bacillus is immaterial.

It is granted that this micrococcus does not fulfill all the

four requirements imposed by Koch before it may be acknowledged as a specific cause—viz: it is not always found in pulmonic fever (only in from 70 to 90 per cent. of the cases); again, it does not produce the disease when injected into the body.

Whether the diplococcus is the specific cause of pulmonic fever cannot be positively stated, but that the fever is due to some specific organism or organisms, either it or some other yet to be isolated, cannot be doubted when we consider carefully all the phases of the disease.

Pulmonic fever makes its appearance suddenly with a chill, often when there has been no exposure to cold; the temperature rises rapidly, and the lung implication manifests itself with a more or less exudate into the vesicles.

The inflammatory process and products are in no way similar to those of ordinary inflammation, as in catarrhal pneumonia, the exudate may be rapidly and entirely absorbed, leaving the tissues intact.

The exudation is analogous only to the deposit in the mesenteric glands in typhoid fever, though there is, of course, a less quantity in the latter.

That cold may be a predisposing factor is probable, the inflamed and irritated lung being more favorable for the deposition and growth of the germ, just as an abnormal state of the stomach; that is, a diminished secretion of the acid gastric juice offers a more favorable seat for the growth of the comma bacillus in cholera, or an irritated intestine for the typhoid bacillus; but that cold and cold alone without the specific germ, whatever it may be, can develop pulmonic fever, I do not think a possibility. I realize that the majority of medical men now acknowledge the specificity of pulmonic fever, but many still give a sudden chilling as a too important factor.

Again, why should cold in one instance produce in the lungs the usual catarrhal inflammation, as in bronchopneumonia, and in another instance an entirely different and distinct inflammation, as in pulmonic fever? Certainly there is some other influence at work.

The amount of consolidation in the lungs bears no proportionate relation to the degree of fever or the gravity of the disease; the exudate keeps the organism out of the body. The general symptoms (as in the heart and kidneys and nervous system), we must attribute to the specific poison. According to the researches of one investigator, it looks as though we ought to consider high fever in the disease as a favorable indication; he found this micrococcus very sensitive to heat. Exposed to a temperature of 105° for five days, it attenuates and shrivels up; and to a temperature of 104° in seven to eight days; may not this bear some relation to the crisis which usually takes place from the eighth to tenth day?

The crisis is coincident with the appearance in the blood of a new substance which kills the disease, if the patient recovers.—*Welch*.

It has recently been found possible to render animals immune for a short time by certain injections. This protection is due to the formation of a special substance undoubtedly in the blood; it is called the "immunity-producing substance."

Another feature pointing to its infectious nature is its occurrence in epidemics or groups. Many interesting reports are given by various authors of its epidemic nature. Osler reports three cases occurring in one house, and says as many as ten are said to have occurred in one dwelling. Minot reports four cases occurring in a house, three of which were fatal. The cause was discovered to be a defective soil-pipe with which a set-basin in the nursery opened. In a prison in Bavaria, sixty-one persons were attacked during an epidemic. Numberless other cases proving its epidemic character could be quoted.

It occurs at all ages and in all seasons; the young children and aged are not exempt, as formerly supposed.

As in other specific fevers, pulmonic fever is often complicated with albuminuria, peri- and endo-carditis, and also frequently by the occurrence of abortion when the disease attacks pregnant women.

Much has been written upon the mortality of the disease. A synopsis of one thousand cases occurring in the Massachusetts General Hospital, from 1822 to 1889, gives the mortality as 250 or 25 per cent.; in the first decade, the mortality was 10 per cent., while in the last it was 28 per cent. The authors very properly say these percentages are deceptive, as many causes explain this rise—viz: increase in age of patients, complicated cases, intemperate victims and more foreigners. Their deductions from this extensive examination led them to believe that neither the duration nor convalescence was influenced by treatment.

Skoda, Balfour, and Dietl, report the mortality in the English and American armies, the European hospitals, and the Pennsylvania Hospital, for the twenty-five years prior to 1858, to have been $8\frac{1}{2}$ per cent.

A committee appointed to enquire into this subject found in one thousand and sixty-six cases a mortality of 18 per cent. Hartshorne found it to be 25 per cent. in the large hospitals in this country.

I do not think, in these estimates, a proper allowance has been made for complications and other circumstances which necessarily influence the fatality of the disease.

I have, intentionally, omitted reference to the symptomatology, physical signs, and pathological anatomy, as I realize it would be merely rehearsing facts already familiar.

In regard to *treatment*, very little need be said, except that in this disease, as in its analogue (typhoid fever), the least medicine—that is, drugs—and the greatest attention to hygiene, diet, and the comfort of the patient, the better.†

Of course, various symptoms may occur that demand attention, but any routine treatment is worse than useless.

This applies equally to the use of alcohol. In the early stages none is needed; indeed, none should be given in any stage unless demanded by the feebleness of the heart and circulation.

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ART. VI.—Leucoderma.

By WALTER L. PYLE, A. M., M. D., of Washington, D. C.,

RECENT RESIDENT PHYSICIAN EMERGENCY HOSPITAL.

Leucoderma is a pathological process, the result of which is a deficiency in the normal pigmentation of the skin, and possibly its appendages.

Its *synonyms* are leucopathia, vitiligo, achroma, leucasmus, and chloasma album. In India, the disease is called *sufaid-korh*, meaning white leprosy. It has numerous colloquial appellations, such as *chumba* or *phoolyree* (Hindu), *buras* (Urdu), *cabbore* (Singalese), *kuttam* (Taneil), *dhabul* (Bengal).

It differs from albinism in being an acquired deficiency of pigment, not universal and not affecting the eye.

Albinism is congenital, and the hair and eye are affected as well as the skin.

Leucodermic persons are not enfeebled, while albinos are decidedly prone to diseases of the chest.

The disease is of universal distribution, but is naturally more noticeable in the dark-skinned races. It is much more common in this country among the negroes than is generally supposed. I have seen it in Washington a great number of times among the patients at the Emergency Hospital, and have under my care now a case in which the front of the chest is pure white. The patient is an extremely dark negro, a sufferer of rheumatism. The arms and trunk are one-third white, and the process has been steadily increasing for eight years.

The "leopard boy of Africa," so extensively advertised by dime museums over the country, was a well-defined case of leucoderma in a young mulatto, a fitting parallel for the case of ichthyosis, styled the "alligator boy."

Leucoderma is more common among females. It is rarely seen in children, being particularly a disease of middle age. Bissell reports a case in an Indian 90 years of age, subsequent to an attack of rheumatism, 30 years previous.

It is of varying duration, nearly every case giving a different length of time. It may be associated with most any disease, and is directly attributable to none. In a number of cases I have collected, rheumatism has been a marked feature, and three cases under my observation have been of rheumatic diathesis. It has been noticed following typhoid fever and pregnancy.

Symptoms.—In white persons, there are spots or blotches of pale, lustreless appearance, either irregular or symmetrical, scattered over the body.

In the negro, and other dark-skinned races, a mottled appearance is seen. If the process goes to completion, the whole surface changes white. The hair, though rarely affected, may present a mottled appearance.

There seem to be no constitutional disturbances, no radi-

cal change in the skin, no pain—in fact, no disturbance worthy of note.

The eye is not affected ; but in a negro, the sclerotic generally appears muddy.

It appears first in small spots either on the lips, nose, eyelids, soles, palms, or forehead, and increases peripherally—the several spots fusing together.

The skin is peculiarly thin, and easily irritated. Exposure to the sun readily blisters it, and, after the slightest abrasion, it bleeds freely.

Several cases have been reported, in which the specific gravity of the urine was extremely high, due to an excess of urea.

F. T. Wood calls attention to the wave-like course of leucoderma, receding on one side, increasing on the other. The fading is gradual, and the margins may be abrupt or diffuse.

The mucous membranes are rosy. The functions of the sweat-glands are unimpaired.

The theory of the absence of pigment causing a loss of the olfactory sense spoken of by Wallace, is not borne out by several observations of Wood. My cases had the olfactory sense intact.

Etiology and Pathology.—Wilson says: “Leucasma is a neurosis; the result of weakened innervation of the skin, the cause being commonly referable to the organs of assimilation or reproduction. It is not a dermatitis, as a dermatitis usually causes deposition of pigment. The rays of the sun bronze the skin; mustard, cantharides, and many like irritants, cause a dermatitis, which is accompanied by a deposition of pigment. Leucoderma is as common in housemaids as field laborers, and is in no way attributable to the exposure of sun or wind.

True leucodermic patches show no vascular changes, no infiltration; but a partial obliteration of the rete mucosum. It has been ascribed to syphilis; but syphilitic leucoderma is generally the result of cicatrices following syphilitic ulceration.

Many observers have noticed that negroes become several degrees lighter after syphilization; but no definite relation between syphilis and leucoderma has yet been demonstrated in this race.

Post-mortem examinations of leucodermic persons show no change in the supra-renal capsule, a supposed organ of pigmentation.

Climate has no influence. It is seen in the Indians of the Isthmus of Darien, the Hottentots, and the Icelanders. Why the cells of the rete mucosum should have the function in some races of manufacturing or attracting pigment in excess of those of other races is in itself a mystery.

Lister, by his experiments on the pigment cells of a frog, has established the relation existing between these elements and innervation, which formerly had been supposititious.

Doubtless a solution of the central control of pigmentation would confirm the best theory of the cause of leucoderma—*i. e.*, faulty innervation of the skin.

At present, whether the fault is in the cell proper, the conducting media, or the central centre, we are unable to say. It is certainly not due to any vascular disturbances, as the skin shows no vascular changes.

Diagnosis.—It is distinguished from all other like diseases by the absence of structural change. There is no infiltration or induration.

Prognosis.—It is usually a permanent affection, and after its initiation is only a matter of degree, sometimes of short duration, again progressing until death.

Cases of re-deposition of pigment in leucodermic patches have been reported, but are rare.

Treatment.—Correct any associate disturbance, and administer tonic treatment, which seems to arrest the progress of the process.

Various mechanical means and chemical methods have been suggested to ameliorate the attendant disfigurement; but they are all unreliable and unsatisfactory. Ointments and other local medicants are useless.

Hebra suggests whitening the unaffected skin by escha-

rotics; but the reverse of this procedure is more common. Inunctions of the nitrate of silver, and exposure to light, have been used. Tattooing with the same substance has been tried, and many like methods suggested. None are warrantable.

Skin-grafting has been attempted, but the necessary difference of color following is little improvement for such a radical method. However, cases are on record where grafts of black skin have retained their color on a white subject. The most casual observer can readily discern that for many reasons this treatment is valueless. Treatment, either chemical or mechanical, is very unsatisfactory.

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1701 H Street N. W.

For Cough.

Ry.—Antikamnia	3 j
Salol	
Quin. Sulph	āā grs. xx
Spts. Frumenti	3 iij
Syr. Tolutan	3 j
Syr. Simplex	q. s. 3 vj

M. Sig.: One teaspoonful every hour until relieved.

ART. VII.—Traumatic Epilepsy Illustrated by Two Operative Cases—A Clinical Lecture.*

By J. ALLISON HODGES, M. D., of Richmond, Va.,

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I present to you to-day two cases of *traumatic epilepsy* for operation. I am induced to resort to surgical interference in these cases the more readily, not only because of the utter failure of all methods hitherto employed for the relief of their distressing symptoms, but also because of the history of each case subsequent to the infliction of the injury and the well-marked evidences of traumatism which you observe on each calvarium.

It has been your privilege to note the symptoms of several cases of typical epilepsy which were exhibited to you in the Clinical Lecture-room, and I shall not again rehearse these. Suffice it to say, that this disease, when due to traumatism, does not present symptoms essentially different from those you have already clinically studied in the medical cases.

Before operating upon them, however, I would have you carefully contrast the *facies* of these two patients as they stand before you, each one presenting, as it does, the most prominent symptom characterizing his peculiar case. Observe the benign and charitable expression on the face of this old gentleman, while, at the same time, if you will notice more carefully, there is a vacant stare apparent which gives you the impression of advancing imbecility and loss of memory. On the other hand, you will readily observe in this young man's face a sullen and forbidding expression of countenance that betokens incipient mania—the lesion in both cases being situated in corresponding localities on the cranium.

The history of these cases in detail is as follows:

Case I.—This young man is now twenty years of age; is physically robust and well developed, but is mentally a

* Delivered in Amphitheatre of Virginia Hospital before Class of University College of Medicine, November 15th, 1894.

"wreck," being totally incapacitated for either physical or mental labor. His parents tell me that he was an exceptionally bright child up to one year of age, when he fell from the nurse's arms and struck his head on the sharp edge of a wooden block, which blow has left, as you see, an elevation on the left parietal bone just above the upper temporal ridge and behind the coronal suture.

One week after receiving this injury, he had a convulsion and then an interval of rest for six months, since which time the convulsions have increased in number and severity. Within the past two years, these attacks have become markedly severe, and he has experienced as many as nineteen in one day. From the locality of the injury, you might reasonably expect to note some impairment of the motor functions, but there has been none, except a slight unsteadiness in his gait.

The most prominent symptom has been a dullness and sluggishness of the mental faculties, with a tendency, within the last year, towards attacks of maniacal frenzy. His memory was comparatively good until he was sixteen years of age. Now, he does not recollect, as he told me yesterday, where he lives. This patient has a distinct aura, for he says that he has a premonition when the attacks are imminent by a sensation of acute pain in the region of the stomach. There is, also, some tenderness on pressure over this cicatrix.

Case II.—This gentleman is married, fifty-nine years of age, and has a good family history.

The first attack he experienced was in December, 1864. In May of that year, he was struck on the left side of the head, while in battle, by a glancing minie-ball, which has left a linear depression just above and parallel to the horizontal line of the squamous suture. He fell unconscious at the time, but soon revived, and continued in his usual good health till six months later, when he had an epileptic convulsion. Since then he has had many seizures, averaging five or six daily, most of them at night. The most annoying symptom in his case, is his increasing loss of memory. It is this which brings him to us to-day, for he declares life to be a burden to him. He has no aura, and the majority of the attacks are of the petit mal type.

Now, in view of the histories of these patients, and especially of the fact that the disease seems undeniably to have been caused in both of them by the injuries sustained, I have invited you to witness an operation which will be

directed to their permanent relief. I am free to confess, however, that this operation of trephining, which logically seems to produce so much, often does not always fulfil all the indications.

There are *two instrumental methods* for removing the bone, which are known as *the old* and *the new* operation—the former consisting simply of the removal of a button of bone at the site of the injury by means of the circular or conical trephine; the latter being more radical, in that a larger surface is trephined, so as to admit of a more elaborate examination of the implicated brain surface. Being convinced that the old operation affords as good results as the modern in traumatic epilepsy, I shall follow that method in these cases, though I am aware that in some cerebral lesions, where there are present cystic growths, abscesses, etc., the latter is to be preferred.

The *mortality* in operations for trephining in epilepsy is estimated at 19 per cent., but the character of these statistics is unreliable. I am persuaded that the operation *per se* is not a dangerous one, guarded, as it is in this day, by the absolute regimen of asepsis, and that more patients die from complications that might have been avoided by a timely operation, than from the removal of a disc of healthy bone.

As I have intimated before, the *results* of this operation, as regards recovery from the disease itself, are not absolutely constant, but still are sufficiently favorable to commend the operation to the sufferer as well as to the surgeon, and to give some promise of recovery when all other methods have failed of success. In eighty-two cases reported, forty-eight were restored to good health—the convulsions ceasing for a number of years and then being very slight, and thirteen were entirely relieved by this operation.

With reference to the *cause of the lesions* inducing epilepsy, I would remark that the application of great violence to the skull has been, in the majority of instances, the exciting cause, leading to the subsequent inflammation and thickening of the injured parts of the bone, and, perhaps, to the formation of an exostosis, while the resulting molecular dis-

turbance of the cortical area of the brain substance has been the immediate cause.

It should be remembered, however, that a simple inflammation and hyperplasia of the dura mater or pericranium may be the sole cause in a number of cases.

The principal *symptoms indicating operation* are a distinct history of injury and subsequent convulsions, the presence of a well-marked cicatrix, or a sinus leading down to diseased bone, and the localization of pain in the head at or about the injured spot.

As the two cases which I have shown you fulfil all these indications, I will proceed to trephine each case over the site of the injury, and will endeavor to remove the cause of the disease, enlarging afterwards the opening in the cranial walls, should occasion demand it.

In the performance of this operation, I would enforce most earnestly two precepts upon you, *absolute cleanliness* and the *utmost care*. Holden's advice still holds good: "Think that you are operating on the thinnest skull ever seen, and thinner in one portion of the circle than the other."

Operation.—*This young man* has received careful preparatory treatment, and has been confined to the bed for twenty-four hours to allow his circulation to become thoroughly equalized. The house surgeon has shaved his head, scrubbed and bathed it in antiseptic solutions, and covered it with bi-chloride gauze, the whole being enveloped in a woolen bandage. To be doubly assured of the perfect cleanliness of the site of injury, I will now request him to remove the antiseptic dressings and again bathe the surface in alcohol, and afterwards apply to it a towel wrung out of a warm solution of mercurial bi-chloride.

Having now prepared the field of operation, as the patient is being anæsthetized, I proceed to make a semi-circular flap over the spot I have already pointed out to you, large enough to include the external cicatrix, it being as near the centre of the horse-shoe incision as possible. You will notice that I am careful to take up the pericranium with the integument, and not to dissect them up separately, for I purpose using this as the covering to the cavity that I shall make, and I do not desire it to be stretched any more than is possible.

Having now turned back this flap, I will apply the central spear of the trephine over the middle of this elevated ridge that I find on the left parietal bone, under the skin cicatrix, and will proceed to excise a button of bone. Having obtained a firm hold with the instrument, I remove the central spear, for fear of wounding the subjacent dura and brain substance, and slowly and carefully make the circular incision. You will notice that I use an inch and-a-half trephine, and that it is conical in shape, for I am confident that a large size conical instrument not only gives more space but that it is less dangerous.

I have now reached the inner table of the skull, which I recognize by the softer character of the detritus, and as it behooves the operator at this stage to exercise the greatest care, I remove the instrument and thoroughly cleanse it in a carbolyzed solution, and introducing it again, after testing the depth with a probe, I soon find that the inner table is pierced, and that by a slight rocking motion the whole button can be partially displaced. Using now a pair of oblique forceps, I elevate one edge of the fragment and discover that it is very firmly united to the dura beneath, which, as you know, is rather unusual except at the edges of the sutures. By means of a probe and elevator, the dura is detached from the inner table, and upon examination it is found to be thickened, congested and vascular, as well as firmly adherent. The condition of the parts not seeming to justify further interference, and the pathological conditions that are evident being a sufficient cause of lesion, I shall proceed to close the wound.

The second case upon which I shall now operate has been subjected to like preparatory treatment, and will undergo the same technique in operation. I make the base of the semi-circular incision in this case a little lower than in the former, the site of the injury being likewise on the left parietal bone about one inch above the ear. The bony wall in this locality should be thinner than the site of operation in the former case, but I find that the osseous tissue is very much thickened. As I proceed with the operation, I do not find any line of fracture which I rather suspected to be on the inner table, at least, but only an increase in thickness throughout both tables. This hyperplasia of the bone can of itself be a cause of this disease, and may account for the rather tardy appearance of the epileptic seizures. On removing the button, I do not find it adherent to the dura, but I notice that this membrane is very much congested.

Believing that the hyperplasia of the osseous tissue here has been of sufficient extent to induce this disease, and being convinced that there is no evidence of cortical implication, I will close this wound as I did in the other instance. The edges of the incised bone are first carefully freed from all spiculæ—then the whole surface is thoroughly irrigated with sterilized hot water, those vessels of the scalp requiring it being ligated, and the edges of the wound closely approximated, care being taken that the pericranium is taken in with the sutures through the integument, for I prefer this membrane as a covering even to decalcified bone. Only three sutures are applied, one at each angle of the wound, the intervening spaces being held in apposition by thin strips of gauze, which are cemented at each end with collodion. The wound is now firmly closed, and is covered with antiseptic dressings.

The *prognosis* in these two cases, as far as their recovery from the operation is concerned, is very favorable, for no injury has been sustained by either the dura or brain, and the wounds will unite by first intention; but with reference to recovery from the disease itself, it is impossible now to predicate an opinion. I am satisfied, however, that this operation promises much for the future, even in non traumatic cases, especially since neurologists are now better qualified than ever before to methodically and systematically locate the motor centres of the brain.

As a rule, I would advise you to operate in all cases of traumatic injuries of the skull as soon thereafter as any manifestation of cerebral disturbance occurs. Perhaps in these cases, had this operation for these injuries, which manifestly have initiated the disease, been performed earlier, the results might have been more brilliant; but, anyway, we will give them "the benefit of the doubt."

The *after-treatment* of these cases is important. We have now removed but one cause of the disease; and though it may be the principal one, still I would insist that these patients be given continuously a mixture containing small doses of fluid extract of conium, fluid extract of ergot and bromide of potash. This line of treatment will best meet the requirements of such cases as these and give the most promising results.

ART. VIII.—Total Extirpation of the Uterus and Adnexa per Vaginam in Inflammatory Diseases of the Pelvis.*

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The vaginal extirpation of the uterus for malignant disease has established for itself a recognized place among the operative procedures of modern gynæcological surgery. In the removal of fibroid tumors of moderate size the tendency is also toward the vaginal route as giving better results than abdominal section. The dangers of vaginal hysteromyomectomy are much less than those of abdominal hysterectomy, whether the stump in the latter be treated extra- or intra-peritoneally, or whether total extirpation be done. The subsequent danger of ventral hernia is entirely avoided in the vaginal method. Besides, in the latter method, the question of drainage is solved by the operation itself. The surgeon need not ask himself the vexatious and often vital question at every operation: Shall I drain in this case, or not? He cannot choose. He must drain.

It is not my purpose, however, in this paper, to discuss vaginal hysterectomy for malignant or fibroid growths of the uterus. I desire to present for consideration *some facts and reasons in favor of the total extirpation of the uterus and adnexa in cases of inflammatory diseases of these organs and of the pelvic peritoneum.*

The proposition first made by Péan, that the uterus shall be removed, together with the appendages, in cases of suppurative disease in the pelvis, appeared rather startling to gynæcologists of conservative tendencies. Even practitioners considered radical in their views on the necessity of operative interference in pelvic diseases, were taken aback by a proceeding so apparently revolutionary. At first thought, indeed, one is not favorably impressed by the operation, and is inclined to attribute its frequent performance in France

*Read before the Baltimore Gynæcological and Obstetrical Society, December 11, 1894.

and Belgium to a supposed Gallic tendency to run to extremes. However, the more carefully one studies the operation itself, its indications and results, the more forcibly do its advantages show forth. It may sound paradoxical to say that an operation which sacrifices the greater part of the pelvic organs of a woman, is a conservative procedure. And yet, I claim the operation is conservative in the best sense; for true conservatism does not consist, as some seem to think, in completely doing a large number of unnecessary operations, but in thoroughly doing those operations that are necessary for saving life or restoring health. More careful diagnosis, more judicious consideration of the pathology and causation, and greater familiarity with the clinical history of diseases of the female pelvic organs, will result, naturally, in limiting the sphere of operative intervention in the course of these diseases. Such incomplete procedures as vaginal puncture of pelvic abscesses, such unavailing operations as the majority of vagino and ventro-fixations of the uterus, and such totally unnecessary performances as excision or ignipuncture of normal Graafian vesicles, are no more to be regarded as conservative surgical measures than what I have elsewhere ventured to term "that form of vicarious masturbation known as pelvic massage," is a conservative procedure.

There is little doubt that the large majority of cases of tubal and ovarian suppuration depend primarily upon gonorrhœal infection of the vaginal and uterine mucosa, and these cases are generally found associated with endometrial suppurative inflammation, no matter how remote the date of the original infection. I do not deny the possibility of curing a gonorrhœal endometritis by properly-directed local treatment; but every gynecologist of experience knows that this is not a common occurrence, even in cases where the specific inflammation is limited to the endometrium. In cases, on the other hand, where the tubes and ovaries, and the pelvic peritoneum are involved, the restoration of the integrity of the uterine mucosa is extremely improbable. Hence, advanced gynecologists have rightly abandoned

topical treatment of the interior of the uterus in cases where the adnexa are the seat of suppurative inflammation. Many of you likewise know, from experience, the barrenness of results of such intra-uterine therapy after removal of the appendages. How many cases can you not recall where dilatation, curetting and antiseptic applications—even destructive cauterizations—failed to change permanently the purulent character of the discharges, or arrest the hæmorrhages from the uterus after ablation of the adnexa? In these cases, the uterus itself is the *corpus delicti*, a source of trouble and anxiety to the attendant, and a constant menace to the patient; for there can be no doubt of the great liability of a womb in such a morbid condition to septic or tubercular infection and cancerous degeneration. There is, then, here a rational indication to remove the diseased uterus together with the diseased adnexa.

Cases of septic endometritis following ill-advised attempts at intra-uterine medication, the passage of probes, the insertion of sponge and other tents, or the forcible dilatation and discission of the cervix, come, in a certain degree, under the same category. These procedures have, in not a few cases, been the starting point of infective processes in the uterus and tubes previously healthy. There are, perhaps, few of us who have not cases of this sort upon our consciences—not that we are to blame, for we simply played the popular game of “follow my leader.”

Puerperal endometritis, with tubal involvement, with its tendency to a rapidly fatal issue, would seem a positive indication for total extirpation. Indeed, in these cases the uterus is the source of the greater danger from the large extent of surface infected. It is true that curettage, with antiseptic irrigation and gauze-packing, allowing free drainage, sometimes arrests the disease when confined to the uterine cavity, but these results are not sufficiently frequent to be a source of consolation.

The objection has been made that this operation is not justified; that even if successful, it deprives a woman of organs which characterize her sexually; that, in short, while

a woman may lose her ovaries and still remain a woman, yet, when the uterus is also removed, she is entirely unsexed. Much of this sort of argument seems to me merely theoretical, but its presumptively authoritative character and constant asseveration give it some dignity and standing. I hazard the assertion, however, that a living mother and housewife, even though deprived of uterus, tubes, and ovaries, is a greater credit to surgery than a dead woman with these organs still in her pelvis. It may be claimed that this is an exaggeration, but those who have practised much obstetrics, and verified causes of death in the puerperium by personal autopsies, know that the picture is not overdrawn.

Hæmorrhagic and hyperplastic endometritis frequently yields to appropriate local treatment; but here also cases occur in which the hæmorrhages recur after curettage, nitric acid cauterizations and other topical methods. Removal of the appendages, even, is not always successful in arresting the exhausting drain of blood from the diseased uterus. So conservative a gynæcologist as Fritsch regards these cases as a proper indication for total extirpation, and has published a series of successful cases.

In cases of dense adhesions of displaced uterus, tubes and ovaries, without pus formation, in which severe pain is one of the prominent symptoms, simple ablation of the adnexa, with release of the uterine adhesions, is usually insufficient to give relief from the troublesome symptoms. The attachment of the uterus anteriorly by hysteropexy or other method of antefixation in conjunction with removal of the appendages, is sometimes effective, but the entire extirpation of the uterus with the adnexa is more successful and permanent in its results.

Complete extirpation of the uterus and appendages by the vaginal method for pelvic suppuration was done for the first time by Péan on December 12, 1886. The case was one of endometritis, complicated with salpingitis, pelvic peritonitis, and suppurating cysts of the ovaries. The uterus was large, inflamed, painful, and fixed in the masses of exudation surrounding it. The operation was repeated on the

20th of the same month on the same indications. In 1888, Péan did the same operation four times. He described it, with its results, in a communication to the Paris Société de Chirurgie on July 2, 1890, and again before the International Medical Congress in Berlin in the same year.

When first published, the operation found few supporters, but Segond having performed it a number of times, became enthusiastic over the results obtained. Doyen, of Rheims, began operating by the vaginal method in 1887, and at the Brussels Congress of Gynæcology in 1892 was able to report upon 77 cases. At the same Congress, Segond reported 103 cases; Péan, 150; and Jacobs, of Brussels, 58. The mortality in Segond's cases was a fraction over 10 per cent.; in Péan's, 0.75 per cent.; and in Jacobs', 2 per cent. In a recent paper (*American Journal of Obstetrics*, Nov., 1894), the latter operator reports 279 total extirpations, with 7 deaths. Of the 278 cases, 224 were for inflammatory diseases in the pelvis, and of these, 5, or 2.24 per cent., died. At the semi-centennial meeting of the Berlin Obstetrical and Gynæcological Society, in May, 1894, L. Landau reported 38 operations, with no deaths; L. G. Richelot has operated 124 times for pelvic inflammatory troubles, with 8 deaths, a percentage of 6.53, and a mortality of 5 per cent. in all vaginal extirpations for non-malignant diseases. According to Jacobs, 690 cases of vaginal extirpation, by various operators, give a mortality of 4.49 per cent. It will be seen, from these statistics, that the mortality of what is now generally known as the Péan-Segond operation compares very favorably with that following ablation of the adnexa by abdominal section.

But the mere statistical comparison of the immediate results of an operation is insufficient to enable one to form a judgment upon the desirability of this or that procedure in a given case. The claim is made by Segond and others that the ultimate results are better when both uterus and appendages are extirpated than when the latter are alone removed. This claim finds strong support among American operators (Baldy, Polk, Krug and others), who have, how-

ever, generally given preference to the removal of these organs by abdominal section.

Those cases of extensive pelvic suppuration, in which many operators (Mundé, Kelly, Pozzi, Landau, Laroyenne, Veuillet, and others) puncture or incise the purulent collections and drain, are, as pointed out by Péan, Segond and Jacobs, especially suitable for vaginal total extirpation. In these cases it is often difficult as well as hazardous to do a complete operation by the abdomen. Pus sacs are very liable to rupture and infect the peritoneum, and when the pus is thick and adhesive, thorough cleansing of the abdominal viscera, smeared with this material, is exceedingly difficult. The uterus and intestines are covered with thick masses of lymph, so densely adherent as to make separation and thorough cleansing sometimes impossible. One such case rises in rebuke before me as I write. The patient, a white girl of 23, had been a victim of epilepsy for seven years. The prominent sexual character of her conversation and actions led to a vaginal examination which revealed great tenderness and induration of the entire pelvic vault with an elastic tumor about the size of an orange behind and to the right of the uterus. Upon abdominal section the ovaries were found filled with pus, adherent to each other, the uterus, the rectum, and the small intestine. The tubes were also greatly dilated and filled with pus. The adhesions were very firm, and in separating them one of the abscesses was ruptured, and a mass of sticky, adhesive pus discharged into the peritoneal cavity. Thorough irrigation was practiced, but probably some of the infective material remained, for septicæmia rapidly developed and carried off the patient on the fourth day. In this case, vaginal extirpation, with the free drainage secured by this operation, would probably have prevented the fatal issue.

In cases of this kind some American operators (Baldy, Krug, Polk and others) remove the uterus with the appendages and as much of the inflammatory new formation as possible by the abdominal incision. By the vaginal method the work of removal is rendered much easier and less dan-

gerous, and a large opening is left, which, if packed with gauze, makes the best possible drain. To my mind the operation of Péan-Segond finds in this class of cases its chiefest indication.

The technique of vaginal extirpation is comparatively simple when the vagina is large, and the uterus of moderate size and movable. Where there is a narrow vagina, and a fixed uterus high in the pelvis, or when the latter organ is excessively large, the difficulties of the operation are, of course, increased. It cannot be truthfully said that the operation is an easy one. In simple cases, abdominal section presents less difficulties of execution. To a surgeon the operation is, however, always practicable. The operation may be divided into three stages. (1), Dividing the mucous membrane at the vaginal insertion and separating the bladder in front of and the rectum behind the uterus; (2), securing the blood-vessels in the broad ligaments, liberating the uterus and adnexa from their lateral attachments and removing these organs; (3), the dressing. The instruments required are a thermo-cautery with a curved tip; a straight scalpel; one pair of straight and one pair of curved scissors with handles at least six inches long; three or four strong vulsellum forceps; twelve to fifteen hemostatic forceps for the uterine arteries and broad ligaments; twelve to fifteen small hemostatic forceps; dressing forceps; a soft rubber catheter with rubber end; an Edebohls' speculum, and two lateral retractors. The retractors can often be dispensed with.

Wads of absorbent cotton or compresses of gauze should be used in preference to sponges for mopping the blood from the field of operation. A fountain syringe for irrigation is also extremely useful. For the dressing several strips of iodoform gauze and wads of absorbent cotton are required. All the instruments and dressings should be sterilized by steam.

The patient should be prepared for operation by a saline purge the day before, rectal and vaginal douches and a thorough bath on the day of operation. After being anæ-

thetized she is placed upon the table (an ordinary kitchen table answers as well as any other), and the thighs fixed in a position of extreme flexion, by any form of leg holder. I use a plain canvas strap padded with hair where it passes around the nape of the neck. This can be sterilized in the steam chamber without damaging the strap. Leather cannot be steamed, and buckles get rusty and work stiffly when wanted.

The external genitals and perineum are shaved, and afterwards the vagina, vulva, perineum and anus thoroughly scrubbed with soap and nail brush. After washing off the genitals, the Edebohls' speculum is introduced and weighted by hanging a pail to the handle. As the pail fills up, the traction on the perineum is steadily maintained. I then mop out the entire vagina and cervix with a 1:10 solution of sodium hypochlorite, which is the quickest, best, and least objectionable disinfectant known to me. The vagina is then irrigated with sterilized water and dried. Seizing first the anterior and then the posterior lips of the cervix with volsella, the uterus is drawn down with some force and held steadily by a trained assistant. The operator sitting on a stool, and facing the buttocks of the patient, then makes the incision through the mucous membrane covering the cervix. The incision should pass at once through the mucous and submucous tissue, for the separation of the uterus is made much more readily in the loose connective tissue than more superficially. Either the knife or thermocautery may be used to make this incision, but in conjunction with Jacobs, I prefer the latter for the reason that there is usually no bleeding, and consequently the operation can be proceeded with more rapidly; the wound is and remains aseptic, and finally the vaginal vault does not close until all drainage from the pelvic cavity has been absolutely completed.

The vessels in the broad ligament and the uterine artery may be secured by ligatures, but this method is slower and not so safe as with the clamps; but the clamps used must be strong, accurately locking and well secured. I

should fear greatly to use some of the clamps that are sold by the instrument makers for securing the broad ligaments. In my first vaginal hysterectomy for malignant disease, about five years ago, I used Eastman's forceps for clamping the entire ligament, *en masse*, and I still regard them as excellent instruments, though somewhat clumsy. Whatever tissue is caught in them is securely held. However, for most cases of vaginal extirpation, the clamping *en masse* is not desirable. Here multiple clamps are necessary. The clamps of Péan, as modified by Jacobs, seem to me especially applicable in this operation. They are made of three different lengths (18½, 20 and 23 centimetres = 6½, 8 and 9 inches), the length of the jaws being the same in all. The shortest are for securing the uterine arteries, the medium-sized for the lower half of the broad ligament, and the longest for the upper half of the ligament. With these forceps properly applied, hemostasis is absolutely perfect.

After making the circular incision through the mucous and sub mucous tissue, with the thermo-cautery, the bladder in front and rectum behind are separated from the uterus by means of the finger, aided at times with little snips of the scissors. When the peritoneal cavity is penetrated, the lower portion of the broad ligament on the left side is seized with the finger and thumb of the left hand, and a short forceps applied as closely as possible to the side of the cervix and body of the uterus. The same procedure is followed on the right side, and then the clamped portions of the lateral uterine attachments are separated with the scissors. The uterus can then be drawn farther down, and a second section of the ligament secured in another pair of forceps, on each side. After separating this, the upper and remaining portion of the ligament is seized, clamped, and divided, and the uterus is then completely liberated. This procedure may be modified, after placing the first pair of forceps, by tilting the uterus over forward or backward and applying the remaining clamps from above, downward. If the ovaries and tubes have not been removed with the

uterus, they should be carefully brought down with the thumb and index finger, seized in another clamp, and cut off. The endeavor should be made to remove the adnexa in all cases. With care and persistence, this should always be possible.

In cases where the uterus is excessively large, or where there are many firm adhesions, it may be necessary to remove the uterus in sections (*par morcellement*). This renders the operation more tedious, but the procedure is essentially the same. After removing the uterus and adnexa, the vagina and pelvic cavity are well washed out with sterilized water, and the torn and cut surfaces carefully examined for bleeding points. If the cut surfaces of the stumps bleed, the clamps have not been securely applied, and it is better to apply another clamp, lock it firmly, and remove the first one. In most cases, the clamps will be found secure, but considerable oozing will occur from the connective tissue separated from the bladder and rectum. This oozing must be checked before dressing the wound; otherwise, it will become the source of considerable anxiety, if not of danger. Wherever distinct bleeding points are found, they should be taken up in one of the ordinary surgical hemostatic forceps. After completely arresting the bleeding, and again irrigating the pelvic cavity, the denuded surfaces are dusted with iodoform, and a strip of sterilized gauze—iodoformed or plain—is passed up into the pelvis, and another into the vagina, separating the clamp handles from the sides of the vagina where they may give considerable pain by pressure. The forcep handles are tied together, and kept in proper position.

Before packing the vagina with gauze, a self-retaining, soft rubber catheter, which has been well sterilized, should be passed into the bladder.

This completes the operation, and the patient is put to bed. If the pain is very severe, a hypodermic injection of morphine and atropine may be given to relieve the pain. This will, however, not often be found necessary.

In forty-eight hours the catheter is withdrawn, the forceps

are taken off, the gauze packing removed from the vagina and pelvic cavity, and a douche of warm sterilized water given. If there has been pus, the pelvis is again packed with gauze to continue the drainage. Otherwise, the pelvis is not packed again, a tampon of gauze being merely placed in the upper portion of the vagina to act as a support. A douche is given once or twice daily for three or four weeks.

On the third day, a saline purgative is given to move the bowels, if these have not acted naturally.

I am doubtful whether it is necessary to keep the clamps on as long as forty-eight hours, but as the most severe pain lasts only about twelve hours, there is no real indication for removing them earlier. I have thought that if the stumps were thoroughly cauterized with the thermo-cautery, the forceps might be removed at once, leaving no foreign body in the vagina and pelvis, except the gauze. The patients would doubtless be much more comfortable than when the clamps remain. I have, however, not had the courage to put this suggestion in practice.

Patients may usually be allowed to sit up after the first week. Jacobs allows his patients to sit up on the sixth day. One would not venture this after an abdominal section, unless one desired especially to invite ventral hernia.

Surgeons who have often done the abdominal operation for total removal, claim that by this method it is easier and safer to deal with intestinal and omental adhesions; that everything is open to the eye, and that any injury to the intestines can be immediately and readily repaired. At first thought this seems a very plausible contention; but practically, adhesions do not often materially interfere with the performance of the vaginal extirpation. If an intestinal fistula results, it usually closes readily in a few weeks under gauze packing and cleanliness.

The objection, so often made, that by the vaginal operation one is compelled to "work in the dark," is not tenable. Even where one has to deal with a narrow vagina, and a womb high up in the pelvis, every step of the operation can

be guided by the eye. Indeed, so far as my own experience goes, I see more of my operation in vaginal extirpation than when I do an abdominal section. Through a two-inch incision, in a stout abdominal wall, one cannot see easily into the pelvis.

Pean, Segond, Jacobs, Doyen and Landau have usually found it possible to remove the uterus and appendages entirely. In the cases in which this is not practicable without exposing the patient too long to the depressing effects of anæsthesia and others factors of shock in prolonged operation, the "open treatment," with perfect drainage, gives the patient a much better chance for recovery than does the operation by abdominal section.

The objection has been made that the shock of extirpation of the uterus with the appendages is much greater than when the latter are alone removed. Krug, Baldy and Polk have denied that this is true to any great degree of the abdominal method. My own experience teaches me that in vaginal total extirpation the shock is not any greater than in simple abdominal section with ablation of the adnexa.

Although I am not yet ready to advocate the total abandonment of abdominal section, like some new and enthusiastic converts to the Pean-Segond operation, I am convinced of its great superiority to simple ablation of the adnexa in all those cases of inflammatory diseases of the pelvis, in which the uterus is the seat of gonorrhœal, septic or tubercular infection.

I desire to report briefly the following cases in which I have recently performed this operation:

CASE I.—H. McN. This was a case of hysterical mania, from whom I had removed the appendages by abdominal section in 1891 for hematosalpinx and adherent ovary on the right side. As the severe pain of which the patient complained before this operation persisted, and there were frequent purulent and bloody discharges from the uterus, this organ was extirpated *per vaginam* on the 12th of July, 1894. Although the vagina was very narrow and the uterus high up in the pelvis, there was comparatively little difficulty in completing the operation. The patient suffered

much less from shock than after the abdominal section, and was sitting up on the eighth day. The temperature rose to 100.2° on the morning after, and fell to normal on the second day. The subsequent course presented nothing noteworthy. The patient still complains of pain in the pelvis, but can now sit up in a chair, which she had not done for four years, except for a brief period following the first operation. The mental condition has not been modified to any great extent.

CASE II.—F. B. G., aged 26, mother of four children, was admitted with acute puerperal mania on July 16th, 1894. Vaginal examination revealed an extensively ruptured perineum, lacerated cervix, with sloughing of the posterior lip. The uterus was enlarged, and there was a profuse discharge from its interior. No discoverable lesion of the appendages. Vaginal hysterectomy was done on October 7th. She recovered from the operation without a bad symptom, the temperature not rising above 100.5° . She was out of bed within ten days. Her maniacal condition, which was decidedly better for a week after the operation, returned, and she became restless and noisy, and tore her clothing after getting up. At the present writing, she is much improved both mentally and physically, and will, I think, recover entirely.

CASE III.—M. B., single, aged 26, was admitted April 4, 1893, suffering from acute mania. Had been, before admission, under treatment for uterine disease. Vaginal examination showed retroverted and adherent uterus, and enlarged ovaries. As she seemed to improve under general treatment, local intervention was deferred. It was found that the maniacal attacks recurred with each menstrual period, and there seemed a likelihood of the patient passing into dementia. On November 7th, 1894, vaginal hysterectomy was done. The vagina was very narrow, but with the aid of Edebohls' speculum and lateral retractors no great difficulty was experienced in doing the operation. The temperature did not rise above 99.6 . The patient was out of bed within ten days. She has passed the time for her menstrual period since the operation, and became slightly restless and erratic in her behavior for a few days. She is at present quite rational, has had no maniacal outbreak, and gives fair promise of entire recovery.

865 Park Avenue.

ART. IX.—The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.

By J. C. LE HARDY, M. D., of Savannah, Ga.

[Continued from page 850, December No., 1894.]

The next thing to be considered is the custom now in vogue of *giving publicity to cases of yellow fever or of cholera before a diagnosis has been made by a competent and trustworthy physician*. Common sense teaches that such a practice is reprehensible, because prejudicial to the best interests of the people, and that it should be abolished.

While it is just and right that the inhabitants of a city should be warned of the approaching danger by those who are in authority as soon as yellow fever, cholera, or other serious epidemic disease is spreading, in order to enable them to get away before it becomes epidemic, it is eminently wrong to terrify people into panics without a cause, except perhaps the morbid desire of posing as public benefactors. If not, why should information meant for the use and guidance of the Marine Hospital Surgeon-General alone, be given to the Associated Press for publication? All the wild scenes so graphically described and quoted at the beginning of this article were the direct results of the untimely announcement of the Branham case; had this been deferred until September 15th, when the yellow fever began to spread, all the sufferings and privations, to which thousands of the inhabitants of Brunswick were subjected during the months of August and September, would have been avoided.

At Pensacola and at Port Tampa, a stampede was the result of the premature publication of cases which, upon more careful investigation, were found to be *not yellow fever*!

If it was done for the purpose of *bringing prominently before the people* those who have control of public health matters and of quarantine, the scheme worked admirably! The publication of these telegrams in every corner of the land spread dread or consternation everywhere; it impelled the health boards and municipal authorities of almost every

Southern city, town or village to protect themselves against the *imaginary danger*, by instituting shot-gun and other quarantines! People were arrested and sent to prison, travel was greatly impeded all along the coast, and commerce clogged or interrupted in all Southern States, *while the health and quarantine authorities were praised to the sky for their prompt and vigorous action.*

We will next endeavor to show that the isolation and segregation of first cases, the depopulation of the locality surrounding a focus before knowing that it is infected, and the enforcement of internal quarantine, the use of the cordons, guards, etc.—the methods resorted to last year—are not calculated to prevent the occurrence of an epidemic. In order to do full justice to this most important subject, and to bring all the facts bearing upon it before the mind of our readers, I have taken from the weekly reports of the Marine Hospital Service, extracts which show what was done by the officers of that service from August 10th, 1893, (the day Branham was taken sick) to September 15th, when yellow fever began to spread, as follows:

Aug. 10th.—Ass't Surg. Branham, M. H. S., taken sick with fever at Quarantine Station; he is brought into Brunswick and taken to the house of his cousin, Dr. H. Branham. *11th.* Symptoms of yellow fever first discovered by attending physicians. *12th.* Diagnosis of yellow fever made by three local doctors and Surg. Gen. Wyman, M. H. S., Washington, D. C., immediately informed by telegram. The news given to the people create a panic at home, and much excitement all over the country; surgeons ordered to Brunswick by chief. *14th.* Surg. Hutton arrives and wires a clear description of case to chief; wants an expert sent to make diagnosis. *15th.* Surg. Carter arrives; consultation held; surgeon's diagnosis differ from that of local doctors. Surg. Carter, acting Ass't Surg. Hazlehurst and nurse put in charge of case; Drs. Dunwoody and H. Branham, who had attended Surg. Branham, and nurse, are dismissed and shipped to the National Quarantine Station, at Sapelo, for a ten days' quarantine. *16th.* People notified that they must move away. Branham's house completely isolated and guarded. *17th.* Expert Guiteras arrives—confirms diagnosis of yellow fever. *18th.* Complete depopulation in a radius of 600 feet from

Branham's house in every direction. Disinfection under and around the Branham house with bi-chloride solution and carbolic acid. 20th. Second case diagnosed "yellow fever" by expert; half-mile from Branham's house, "cordon extended to embrace new focus." Branham dies at 5 P. M. Second case brought in the Branham's house. 21st. Harris, the brother of second case, not permitted to nurse him, and is sent to Sapelo Quarantine. Proclamation by mayor, advising all who can to leave the city. 22d. Appeal for help made by the mayor and relief committee. Third case of yellow fever discovered in another portion of the city. Mother of sick child flees with it, and carries it in the pine woods several miles away. Cordon extended—house disinfected. 23d. Site for a camp located; city much deserted; "hundreds who have gone in the country between here and Waycross are in sad distress." Order issued by surgeons prohibiting railroad companies from taking passengers or baggage to any point south of Atlanta—while on same date Surg. Hutton wired the chief: "I do not yet consider the city infected." 24th. Second case of yellow fever dies. 25th. Camp progressing—no new cases. 27th. House to house inspection; no suspicious cases. 29th. Health certificates issued by Surg. Hutton to railroad employees, who had left Brunswick for Waycross a week ago. 30th. "Camp will be completed next Thursday; no new case reported to-day." 31st. Carload of tents arrived to-day; disinfecting car tested.

Sept. 4th. No new case to-day; Surg. Hutton recommends raising quarantine at the end of fifteen days. Sept. 7th. "Since the case of the Cox child, there has been no yellow fever in Brunswick—John Guiteras, Sanitary Inspector M. H. S." 7th. "No cause seems to exist for continuing quarantine.—G. M. Magruder, P. A. Surg'n. M. H. S." 7th. "Washington, D. C. Remove quarantine to-morrow.—Wyman, Surg. Gen. M. H. S."

Sept. 13th.—"Post mortem reveals to-day fourth case of yellow fever.—John Guiteras" 14th.—"Employ necessary help to quarantine and disinfect infected localities.—Wyman." "To John Guiteras."

Washington, D. C., Sept. 14th.—"Three fresh cases of yellow fever in Brunswick; city undoubtedly infected; request all mails leaving Brunswick be disinfected.—Wyman, S. G. M. H. S., to Hon. W. S. Bissell, Postmaster-General."

Unless it was to impress upon their Chief (*a firm believer in the contagiousness of yellow fever by hearsay*) that they were

doing all to prevent the contagion being *imported to Washington, D. C.*, it is perplexing to understand why the marine surgeons, who have had enough experience with that disease to know the futility of such measures, should have "isolated" and "guarded" Surgeon Branham, and *donned long rubber water-proof coats* for protection, as if he was suffering with the small-pox. As these farcical proceedings are not likely to do much harm, I will not discuss them here. But the next step taken by the service, *the removal of every inhabitant, "600 feet in all directions from foci,"* before determining whether the place was really infected, and the infection was spreading, or that it was a case of sporadic yellow fever, leads one to suppose that either the surgeons were not familiar with the habits of the disease, or that *fear got the better of their judgment. How could they expect to know that the city was infected, or that the disease was spreading, if they removed the only material by which this could be ascertained?*

To this inexcusable blunder must be attributed the deplorable mistake made by the surgeons, the doctors, the inspector and all, when they insisted upon the removal of quarantine, and they allowed refugees to return home. Had this blunder been made by an ordinary physician, who did not understand the habits of latter days yellow fever, it might, perhaps, be condoned; but when done under instructions from the head of a Service, in one of the most important departments of our government, intrusted with the management of epidemics, who ought to know that the effects of such a mistake must necessarily be injurious to a large section of our common country, it ought not to be tolerated.

If public health had received at the hands of Congress the consideration to which it is entitled, such a state of affairs could not exist in a progressive country like ours. But the value of health, in its relation to the energy and power of nations *has never* been fully recognized by rulers or legislators even of the most enlightened countries.

May we not hope that the picture of *a giant at the mercy of a pigmy* will bring about a thorough and scientific investigation of the causes which have given to the Japanese that

superiority, both moral and physical, which they possess over their neighbors.

Should this be done, then hygiene and public health will soon take a prominent place in the governmental machinery as *promoters of the greatness and the prosperity of a nation*, for "*health is strength*;" and the object of a department of public health would be to foster all things calculated to improve the health and strength of the people, to diminish the ratio of mortality, and to increase the length of life.

Such a department should supervise everything pertaining to life. It should be prepared to enlighten the people upon the food, drink, exercise and personal care which are best adapted to promote health at every age, in every station and occupation, on land, in cities, on board ship, in camps, in mines, in schools, in hospitals, in prisons, etc. It should study the influence of climate, topographical peculiarities, meteorological conditions, upon health and disease, and the effects of currents of air or of water in transporting the germs of disease from place to place; make careful analyses of food products, drinks, and medicine in order to prevent adulterations; analyze mineral waters and publish their therapeutic properties; analyze river and other drinking water in order to cause their purification when found polluted. It should endeavor to discover the cause of all diseases and the conditions under which they are produced, with a view to their prevention; ascertain the means for the eradication of preventable diseases; the mode of life most likely to prevent consumption, scrofula, and all the tuberculous diseases, and the localities best adapted for their cure. It should institute chemical, microscopical, biological, pathological and bacteriological investigations of the highest order, and study the causes, habits, management and treatment of epidemics, of contagious, infectious and other diseases. It should extend its inquiries into all the sanitary requirements and appliances used in cities, towns, villages, etc.; the construction of drains, of sewers, the disposal of filth, the ventilation of public and private buildings, in order to correct their defects and in-

roduce better methods. It should also make a thorough study of ship construction and ventilation; of all the methods of cleansing and of disinfection used aboard ship calculated to improve their healthfulness and to prevent or destroy infection, whether in transit or in port. It should institute experiments to ascertain the means best adapted for the prevention of Asiatic cholera, typhus fever, small-pox, yellow fever, the plague, leprosy, etc. It should be authorized to regulate medical education in every State and Territory. It should have the medical corps of the army and of the navy and of the Marine Hospital Service under its control.

The establishment of a department like this would at once elevate the standard of the medical profession all over the country, and it would secure the highest order of scientific investigations, thus placing the United States upon a level with the most advanced countries of Europe.

Had Congress placed the management of epidemics under the control of such a department, the commerce of Brunswick would not have been interrupted; her people would not have been forced into exile and reduced to beggary, because none but physicians of large experience and familiar with all the types of yellow fever, would have been sent there by the Secretary of Public Health.

The Branham case would have been recognized at once as yellow fever, and treated as such! and the confusion into which the Chief of the Quarantine Bureau appears to have been thrown by the many telegrams from frightened officials, would have been prevented. The dozens of surgeons and of experts sent from "pillar to post," would have been permitted to stay at home; and *in lieu thereof*, a careful search, with the view of finding the place wherein Surgeon Branham became infected, would have been instituted. By the same methods, the foci of the second (Harris) and third cases (Cox's child) would have been located. Instead of isolating these "foci of infection," and depopulating the surrounding locality, these physicians would have allowed the people to stay at home, in order to determine in a few days

(the time of incubation is put down at five days for yellow fever) whether the city was or was not infected. Instead of wasting barrels after barrels of mercuric chloride solution and of carbolic acid, and of extending "cordons" with "armed guards," they would have replaced the "*gun*" by the "shovel and the hoe," and put the *guards to drain the stagnant water, and to relieve the soil of its saturation*—a work that would have prevented, if not the few cases of typical yellow fever, at least the hundreds of malarial fever cases which constituted the great bulk of that epidemic.

They would have given to the medical profession a complete clinical history of each case, together with a reliable chemical analysis and microscopical examination of the blood, the contents of the stomach, the urine, the excreta, the black vomit, and a description of the pathological changes taking place during life and at death. Bacteriological investigations in search of the *coveted germ* would have been immediately made, and continued from day to day, and the results published.

[TO BE CONTINUED NEXT MONTH]

ART. X.—Tænia—Their Treatment.*

By THOMAS NORRIS VINCENT, A. M., M. D., of Washington, D. C.

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Of all the animal parasites that infest the human body, the *tænia* has, perhaps, received the most attention, both from the physician and the charlatan. The general idea seems to be prevalent that but a limited number of varieties of this parasite exist; and with the purpose of showing that the number of species is much larger than is usually supposed, let us look for a moment at the number now known.

1. The *tænia solium*, or "armed tape-worm," is the result of

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 12th, 1894.

digestion of measly pork by the human system, which has been but partially cooked. Being thus introduced into the alimentary canal, the larva is acted upon by the digestive fluids of the stomach. Its outer covering being thus removed, the worm, so liberated, attaches itself to the intestinal wall, grows, and in from *twelve to fourteen* weeks attains maturity, and then begins to throw off the dead fragments through the intestinal canal, at the same time often giving rise to various symptoms, to be hereafter noted.

Anatomically, this worm is composed of a head and body; the body composed of strobilæ or segments.

The worm is thought to have no respiratory apparatus, and also has no nervous system, growing only by imbibition—the digestive organs being four longitudinal canals, separated only by thin walls, cellular in character, and by some authorities some of these canals are regarded as excretory in character only. The head or scolex is globular, surmounted by a prolonged *proboscis*, and surrounded by a set of hooklets about $\frac{1}{160}$ th of an inch in length. The strobilæ or segments, usually rectangular in shape, increase in size the farther they are from the head. Each segment contains the necessary reproductive apparatus, male and female.

2. *Tænia mediocanellata*—unarmed tape-worm, or beef tape-worm—is in general appearance like the worm just mentioned; yet it is broader and longer than its fellow; it at times attains a length of twenty-five feet; has no hooklets around the head, but unlike the solium, a rudimentary disk at the top of the head, by which it attaches itself to the intestinal walls, and thus maintains its position, and is not swept out of the canal. It is, *unlike the solium*, derived from the ingestion of *measly veal or beef*, as first noted by Prof. St. Cyr, of Paris.

3. *Tænia tenella*—mutton tapeworm—is a very delicate variety in structure, and very small—coming from measly mutton and in the manner above noted. The body joints are much smaller and narrower than the others; it is also noted that the uterine cavity of the worm is very wide, when compared with the others; it is quite rare in America,

but quite common on the east coast of Africa, and particularly common around Zanzibar; it has small hooklets around the head like the solium.

4. *Broad tape-worm* (*Bothriocephalus latus*).—Common in Ireland, Russia, Sweden and Norway, and England; indigenous to Ireland. Very broad body, numerous joints; maximum length, 25 feet, and yet you may find it composed of several thousand segments. Brown yellow in color; the reproductive organs, being in the centre of the body, link instead of at the sides; the *head* quite large and flattened; eggs quite large; grow in water, and give rise to the embryo; they are ingested, and give rise to the larva, and this in turn in the body to the worm; the larvæ are found in *fish*, notably *salmon*.

5. *Greenland tape-worm* (*B. cordatus*).—Quite common in North Greenland; maximum length one foot; heart-shaped head; practically no neck; body segments; well defined, and generally six to seven hundred in number. Reproductive organs like the *B. latus*, but more numerous; quite common in the dog.

6. *Crested tape-worm* (*B. cristatus*).—Length, nine or ten feet—two crest-like prominences forming the proboscis, and covered with papillæ; the segments are less than one-half inch in breadth, and the body is quite narrow.

7. *Elliptically-jointed tape-worm* (*Tænia elliptica*).—Of very delicate structure; two sets of reproductive organs, and generally found in the cat. One case of the worm being found in the human body reported from St. Thomas, W. I.

8. *Marginal tape-worm* (*T. marginata*).—Quite common in the dog, but very rare in man.

9. *Triple-crowned tape-worm* (*T. acanthotrias*).—Not known in the adult condition.

10. *Spotted tape-worm* (*T. flavopunctata*).—Length three feet, and at times one-and-one-fourth inches broad; head triangular in shape. One case reported in man.

11. *Egyptian dwarf tape-worm*.—Only one case reported of its occurrence in the human body, and that only found on post-mortem.

12. *Hydatid-forming tape-worm (Tænia echinococcus?)*.—Very minute and small; does not live in man, in the adult condition, but the larvæ often in the body. The worm itself is very small, but the larvæ in the human body may be very large; the eggs enter the body through food, water, dust, etc. Residence in populous districts is conducive to the production of hydatid tumors; common in Ireland and Australia.

Origin of worms in the body.—The eggs being cast from the body in the alvine discharges, through the agency of air, water, food and dust, gain entrance into the body of an intermediate animal, and these are transformed into the larvæ; thus in the raw or partly cooked meat is the larvæ caused to enter the human body, and the shell or covering being removed, the worm is set free.

As far as man is concerned, the "armed worm" is most frequently found in him. Unarmed worm is mostly found in herbivora.

The form and arrangement of the genital apparatus is quite characteristic of the tænia. In the *unarmed*, the apparatus is placed in the lateral margins of the body, and is arranged in series. In the *solium*, they are arranged *alternately*; in the *bothriocephalus*, they are in the *middle* of the body.

Length of tænia.—Reports vary much. In *Bulletin of Therapeutics*, Paris, M. Beranger Feraud reports a case of a worm 19 meters long, but, as a general rule, the worm measures 5 to 10 meters in length.

Number of worms.—Tænia are not always solitary in man. One case is reported from Parisian hospitals of a man who had 16 worms.

In a report from one of the hospitals from *Toulon in France*, 39 cases had 1 worm; 6 cases had 2 worms; 1 case had 4 worms.

Where most found.—One case is reported where the head was in the stomach; but whilst the head and body may generally be located anywhere between the pyloric extremity and rectum, yet generally it is found just outside of the

pyloric extremity of the stomach, in the upper part of the *duodenum*; one case was found on *post mortem* where a worm was in the lower *ilium*, and it was *forty-eight* cm. long and lived *thirty-three* hours after being removed.

At what age is it found in the body?—Cobbold,* an authority on parasites, reports: In 80 cases, 62 were over 20 years of age; only one was over 60 years of age. Two-thirds of all cases were between 20–40 years. One child contracted the disease at *fourteen months*—when it first began to *swallow* food.

How long may the worm remain in the body.—In two cases from 6 to 12 months, in report of Cobbold; fifteen cases, 1 to 2 years; fourteen cases, 2 to 6 years; seven cases, 6 to 16 years; general period from 1 to 15 years. One case is reported on authority where it lived in the body 20 years; the natural life of a worm is thought to hardly exceed this.

Which variety is most common in this country?—Beef tapeworm (*T. mediocannellata*) most; Pork tapeworm (*T. solium*), next.

Prognosis.—It is very easy to capture the body, or part of the body, but very difficult to capture the *head*. With every precaution, only 50 out of 100 cases are to be regarded as completely successful.

Diagnosis.—The general symptoms may be expressed under the head of nervous, pulmonary and gastro-intestinal systems, but the only pathognomonic symptom worthy of credence is the actual passage of the body segments, found to be such by personal inspection of the physician.

Treatment.—Nearly every drug in the *materia medica* has been tried—(1) pumpkin seed, (2) turpentine, (3) kousso, (4) male fern, (5) pomegranate—these rank as the best after long trial. All of them have their good and bad points.

Male fern is a very safe remedy; may be given for a long time continuously, and is inexpensive and fairly good in its results in general, but in accuracy cannot be compared with pelletierine and pomegranate, though the above prepa-

*Tapeworms and Threadworms, London, 1867.

ration sometimes gives rise to *nausea*, *vertigo* and *intestinal irritation*, and at times to syncope, which is said to be particularly prone to happen in children. Of all the preparations of pomegranate, the pelletierine itself is by far the best; and it also matters much as to what salt of the *alkaloids* one uses as to whether he gets a good result or not.

In 190 cases—

	<i>Took the head.</i>	<i>No head.</i>	<i>Took body.</i>	<i>Failed.</i>	<i>Remaining.</i>
Pelletierine,	35	20	1	8	8
Koussou,	10	37	7	8	

As to the salts of pelleteirine used, the tannate is most efficient, curing in 30 out of 50 cases. The sulphate is next, removing the head in 20 out of 50 cases.

Chemistry of Pelletierine.—The alkaloid is named after Pelletier, the chemist, who discovered quinine.† It is prepared best from the bark of the fresh root of *punica granatum*. By oxidation, three derivative alkaloids may be obtained from pelletierine.

(1) Isopelletierine, (2) pseudopelletierine, (3) methylpelletierine. Pelletierine is a liquid volatile and soluble in water at 195°. I opelletierine is liquid and volatile, but will not rotate light. Methylpelletierine is volatile liquid and has polariscopic properties. Pelletierine and its first derivative *are* vermicides in character. The last two derivatives *are not* vermicide in character. And of the salts formed by these *alkaloids*, the tannates are the most powerful, in that they are soluble in the intestinal secretions.

But, to be successful with pelletierine, it is necessary to prepare the patient by a laxative to empty the bowel and expose the worm; to administer such a light diet as will keep the intestines clean until the vermicide can act; to give the vermicide on an empty stomach after a period of fasting; to follow its administration by a *hydragogue cathartic* to expel the worm; to administer an enema to remove any possible fragments that may have lodged in the lower bowel.

†Tania et Pelletierine. C. Tanret, Paris.

As illustrative, I desire to report the following case:

Mary —, Assyrian child by birth, when about twenty-one months old, was found to be passing fragments of the body of a *tape-worm*, about three to five feet at a time. She was placed upon the usual preparatory treatment and then given fluid extract of male fern 5j, properly prepared, and failed to pass the worm, though a purgative was given her: but in some forty-eight hours after the same, the body was passed during a natural evacuation, about six feet, but no head. The case was then left alone for some time, but her health began to suffer, and she wasted to a skeleton; and finally, passing fragments from time to time, she was given ol. resin of male fern, and with a result as above noted, bringing away the body, but *no head*. Her health, though, began to improve, and yet she from time to time passed fragments. Last November, *one year*, I took the case in hand and administered again male fern ol. resin, and again the body came away, about ten feet, but no head. I then told the child's guardians that I thought the only thing of value to try was the pomegranate—*pelletierine*. They refused, on account of the expense of the preparation, to get it, and she still continued to pass fragments of worm. Finally, *October 23*, the case was again brought to my notice, and this time they consented to the treatment advised, and I directed them to procure Tanret's preparation of *pelletierine*, the tannate. After the usual preparation, purgative and milk diet, at 6 A. M. on the 23d of October she was given one-fourth of the usual dose, ʒiij, of this preparation, and at 7:20 A. M. she passed the worm *head* and nine feet of body. She was only slightly inclined to *vertigo* once after the dose, and no bowel trouble followed.

I have seen several other cases treated thus, and can only say that they were of like history and like results followed the *pelletierine tannate*.

1221 N. Street, N. W.

Elixir of Three Chlorides (Renz & Henry).

Dr. N. B. Haynie, of Gallatin, Tenn., after frequent use of this preparation, says he finds it entirely reliable, and regards it as one of the happiest of combinations.

*Clinical Reports.***Double Castration Under Cocaine for Head Symptoms, etc.,
Due to Injury of Testicles—Recovery.**

By THOMAS B. MARSHALL M. D., of Bedford City, Va.

John D., æt. 47; carpenter by trade; married; has six children; youngest of which is four years of age.

About six months ago, he lost the power of sexual intercourse, and thought he was injured by lifting. The testes and cords became tender on pressure, at times greatly pained him, and contracted spasmodically, producing severe headaches.

This continued, gradually increasing in severity, until about two months ago, when his mind became greatly affected, appearing at most times in a melancholic mood, and occasionally refusing to take food.

He now came under the care of several physicians, who, after a fruitless medicinal treatment, suggested the removal of the testes. This treatment was decided upon, and a time appointed for the operation, when it was found that the patient had a serious heart lesion, making anæsthetizing impracticable; the operation was therefore abandoned.

Shortly afterwards, about the first of November, the case came into my hands; and after a line of treatment, from which he received little benefit, I suggested the same operation under cocaine, which was eagerly accepted by both patient and wife.

On November 13th, accompanied by a fellow-practitioner, we repaired to his home for the operation. The patient was placed on a table in the dorsal decubitus, and after the usual antiseptic precautions, I injected a 2 per cent. solution of cocaine under the skin, and then into the scrotal sac at various points, using in all two drachms of the solution. I then made the usual incision and proceeded as if the case was anæsthetized by chloroform, first removing the left testicle, which was decidedly the larger, tying and cutting the cord in the usual method. I then proceeded in the same manner with the right, and afterwards coapted the wounds with silk sutures.

During the removal of both testicles, the patient experienced no pain, with the exception that when the left cord was cut, it suddenly contracted, slipping the ligature. This produced a sharp pain, but it immediately passed away. The cord was, however, caught and again ligated before contracting through the ring.

The right wound of operation promptly healed. The left, however, oozed considerably, making it necessary to remove some of the stitches, for irrigation. This then granulated nicely, and in ten days completely filled.

The results of the operation have been highly satisfactory. The pains promptly abated, and have never returned. The head symptoms have entirely disappeared, and the patient's mind is now perfectly clear. He goes about, and is able to do light work.

An Unfortunate Mixture of Sin, Rich Earth, Broken Bones, Punishment, or Bad Surgery—Great Destruction of Tissue and Recovery.

By **ROLFE E. HUGHES, M. D.**, of Abingdon, Va.,

SURGEON TO PRISONERS A., C. & T. RY.; PRES. BOARD OF HEALTH OF ABINGDON, ETC.

On July 1st last, I was called, with Dr. Baker, of this place, to amputate an arm at the shoulder-joint for rapidly spreading septicæmia, the result of a compound comminuted fracture of both bones of forearm. Neither of us had seen the case before, but were told that the injury occurred two weeks prior.

The patient, Wm. Liggons, a young mulatto, æt. 17, and of tuberculous parents, fell from an apple-tree while robbing a bird's nest. The soil below was that of a rich garden—containing much decomposing animal and vegetable matter, which of course the ragged ends of the broken bones collected. (*Moral*: Let bird's nests alone and practice anti-sepsis.)

We found the patient nearly unconscious. Temperature, 104°; pulse at wrist, barely perceptible; tongue, thick and heavily coated; while breath was of the characteristic odor. He had taken little or no food for three days, and the whole left arm was separating from the body. There was complete destruction of the tissues around. The upper portion of scapula, and outer third of clavicle, were being exfoliated; pus was burrowing in all directions, involving the neck and half the circumference of the thorax as far down as the seventh rib.

Without anæsthetics, we removed the arm and those portions of the articulating bones that were disclosed. Soft parts for seventeen inches around were thoroughly decomposed. So of course we had no flaps to cover this tremen-

dous wound or hole in the thorax ; instead, however, used



adhesive strips, after irrigating with bichloride solutions, trusting to nature for granulations, etc. Patient was put upon very large doses of iron and quinine, with an abundance of beef-juice, milk, and good food ; placed in a clean room—wound was dressed often ; each time I removed dead bone.

In four weeks a photograph was taken, from which this electro-plate was made, and on August 25th the patient was discharged ; by last of September he was well, and now enjoys splendid health, and makes one of the best hostlers I ever had.

I think this case is remarkable in showing how nicely nature will manage a case if we consult, study and assist her, for in this case she did nearly all—antiseptic the rest.

Correspondence.

Parvules Better than Pills for Children.

Editor Va. Medical Monthly,—In looking over a copy of a recent issue of your journal, I noted an article by Dr. Bond, entitled "How to Give Pills to Children." I have been using a very good substitute for the large pill (which children have heretofore been compelled to swallow), in the way of Wm. R. Warner & Co.'s "Parvule"—a small pill to be administered often. It has been demonstrated that better results are thus obtained than by giving one large dose. Dr. Bond's method is undoubtedly a good one, but do you not think this better?

Yours truly,

E. H. GINGRICH, M. D.,
3304 Woodland Avenue.

Philadelphia, December 3rd, 1894.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

A Case of Hæmorrhagic Glaucoma—Unusual History—A Suggestion as to Why Some Cases of Retinal Hæmorrhage are Followed by Glaucoma and Others are Not.

Within the past few years, I have had under my care three cases of hæmorrhagic glaucoma.

In the *first case*, Mrs. P., aged 68, I removed the eye-ball as a primary procedure; the glaucoma was at the time absolute, and the inner parts of the ball were found to have undergone many inflammatory changes.

In the *second case*, Miss P., aged 65, I attempted an iridec-tomy which resulted in a dislocation, from sudden relief of tension, of the lens into anterior chamber; the corneal wound was on the second day enlarged, and the lens allowed to escape; with it came the entire contents of the ball, followed by a profuse hæmorrhage, which did not stop until enucleation was done.

The *third case*, I was fortunate enough to see in the pre-glaucomatous stage, and to have under my immediate care during the progress of the disease; and as it offered one or two suggestions as to the manner of development of one form of hæmorrhagic glaucoma, I have thought it worth the while to report it.

Mr. P., aged 63. Syphilis in early manhood. A steady drinker for years. Full habit. On February 24th, 1894, patient retired to bed in good health. On arising the next morning, he noticed that the sight of his left eye was practically gone. He could distinguish, however, light from darkness. No pain about the eye. No external inflammatory signs. On March 6th, he consulted me. Tension of ball normal. Examination showed the fundus of the eye to be the seat of innumerable hæmorrhagic areas of greater or lesser size. They were most numerous and largest about

the macula. The region of the optic disc was much swollen; vessels of disc, save for short sections of them, concealed; many hæmorrhages about the swollen disc. The hæmorrhages were less numerous in the outer than central parts of the fundus. Vision, perception of light, and of outlines of objects held peripherally.

O. D. $V = \frac{1}{16}$. Fundus is interesting. It is the seat of very numerous deposits, which, although occurring in greatest numbers in the macular region, and in the region just adjacent to the disc, are scattered throughout the fundus. These deposits, more or less circular in form, vary much in size; in places they resemble drops of rain, in other places they are pearly in color; there is no pigment deposit about them; they occur alone, or in groups covering larger or smaller areas; they cannot be said to follow the lines of the retinal vessels; for while, in some places, they seem to be ranged on either side of a vessel, they are just as numerous and as large in regions where the retinal vessels cannot be seen with the ophthalmoscope. (Urine normal; heart normal; lungs normal.) The optic disc itself presents nothing that would attract attention in an otherwise healthy eye. Perhaps the veins are a trifle dilated, and the arteries somewhat contracted. They are not enough so to attract attention. The seat of these deposits must be the choroid, for a retina with such changes would necessarily show a corresponding diminution in visual acuity. V, in the case of Mr. H., is $\frac{1}{16}$, and accurate for both far and near vision.

Mr. H. was given the iodide of potash internally. Hot baths to the eye. Irritation to the skin of the temporal region. Under this treatment, the swollen condition of the disc diminished considerably and there was some absorption of the hæmorrhages.

On March 25th, the eye-ball began to pain and to be slightly injected about the corneal margin. Incipient glaucoma was suspected, although there was no tension. Treatment proved of no avail.

On March 31st, the tension of the ball began to get above normal. Eserine (gr. j—5j) was ordered to be put into the eye twice daily. It produced such pain that the patient (I was out of town) decided, after the second instillation, to await my return. (And I may say here that in this form of glaucoma eserine is contra-indicated.)

On April 2nd, the eye-ball had become slightly painful on pressure; while it was constantly so painful as to cause patient to desist from everything save attention to the eye.

On April 3rd, the cornea had begun to become cloudy; the fundus could not be made out by the direct method, while the appearance of two small hæmorrhagic spots on the surface of the iris showed, it would seem, that *the iris was diseased*. The tension was, however, at this time very little above normal. Pupil not more dilated than its fellow.

April 4th.—Pilocarpine, gr. $\frac{1}{6}$, twice daily; hot applications to the eyes. Tension normal. Disappearance of the hæmorrhages on surface of the iris. Eyes less painful.

April 5th.—Pupil irregularly dilated, the lower part of the circle being somewhat flattened, while thrown off from its edge is a small amount of pigment or blood—which, I cannot determine. Tension normal. Ball, however, much injected, and some tendency to œdema of bulbar conjunctiva. Pupil responds less actively to light than in other eye.

April 9th.—Pilocarpine has been continued. Tension above normal until April 8th, when patient was bled from the temple. Conjunctiva remains injected, especially about the cornea. Fundus cannot be made out distinctly. Slight pain on pressure. Eye-ball more or less continuously uncomfortable. No further iritic hæmorrhages. Hot applications.

April 16th.—The symptoms have varied in intensity since above date. General tendency, however, toward increase of the glaucoma. There has been increase in amount and extent of area of deposit along the lower border of the pupil. Marked increase of tension towards night, and with it increase of pericorneal injection. On April 12th, put into eye several drops of 4 per cent. solution of cocaine for the purpose of examination of fundus. Pupil dilated irregularly; *dilatation caused appearance of one fairly large and several minute hæmorrhages from surface of iris*. Fundus cannot be made out because of deposit from iris edge on lens, and of some cloudiness of cornea, chiefly in lower half. Eye feels *sore*, and is tender on pressure. On April 14th, patient was again bled from temple; tension immediately fell below normal. Anterior chamber deeper than its fellow. Pilocarpine and iodide of potash continued. Eye presents appearance of iritis rather than of glaucoma.

April 24th.—Condition of eye has changed but slightly. The pericorneal injection is a more fiery red; the tension remains above normal; there have appeared on the surface of the iris numerous hæmorrhagic spots, very small, but distinct. Pain in ball more or less constant. Some in-

crease in amount of pigment deposit about pupillary margin.

July 15th.—Hot applications and use of potash continued. The redness has left the eye. The hæmorrhages in the fundus have disappeared, save minute ones here and there—evidently of recent date. The iris is still adherent to the lens along lower part of the pupil. Tension of the ball is slightly plus. There is no pain. Vision has slightly improved. No swelling about nerve.

November 15, 1894.—Patient has suffered no inconvenience in O. S. since last examination—in July. Vision has slightly improved—the eye is, however, still useless for the purposes of accurate vision. No hæmorrhages can be made out in the fundus. Pupil attached below at margin to the lens. Tension of eye-ball decidedly suspicious.

The above case has several interesting points. We have, as the starting-point of our trouble, choroidal changes present in both eyes. These changes were, in all likelihood, vascular, and resulted in rupture of the vessel walls. One month later, signs of iritic irritation showed themselves, and, with them, signs of glaucoma. A few days later, the high tension was well marked, and the iritic irritation sufficient in degree to cause adhesions between the iris edge and the lens. Slight hæmorrhagic extravasations appeared on the surface of the iris, while even such a mild mydriatic as a weak solution of cocaine caused, in the act of dilatation of the pupil, further iritic hæmorrhages. I think there was at no time a true inflammation of the iris. The interpretation of this sequence of events is, it would seem, that numerous particles of the diseased tissues of the blood-vessels separated, at the time of the hæmorrhages, into the fundus, were carried by the lymph current into the filtration angle, where they lodged, causing obstruction to the lymph outflow—hence the high tension; some of the diseased particles were also carried into the iris tissue—hence its signs of irritation. I think we have, in this case, an indication as to why some cases of retinal hæmorrhage are followed by hæmorrhagic glaucoma, and others are not. *Where the extravasation into the fundus is purely of the blood-elements, there is no likelihood that the absorption of this extravasation will lead to glaucomatous symptoms; where, however, the ex-*

travasation consists not only of blood, but of a considerable number of particles of diseased choroidal tissue—in reality, foreign bodies—their removal by the lymph current may produce glaucoma. These particles of diseased tissue reach the filtration angle as emboli, lodge in the minute channels of escape for the fluid from the inner parts of eye, act as irritants to the walls of the lymph channels in which they are lodged, set up an inflammation varying in degree according to the number and character of the emboli and their size, produce, as a result of their irritative action, occlusion of the lymph channels in which they are lodged, and thus arise the symptoms of glaucoma.

The changes noticed in the choroid in the above case may have been amyloid in nature, and the hæmorrhages may have detached numerous minute particles of these diseased areas. Once detached, these particles of diseased tissues would serve as foreign bodies, and then the sequence above noted. I do not mean to say that this is the invariable cause and sequence in hæmorrhagic glaucoma. The inference from this one case is that hæmorrhagic glaucoma may have such a cause.

The question may be asked, Will this eye finally be lost through glaucoma, so that enucleation will be necessary? At the present time, eight months have passed since the first glaucomatous symptoms were noticed. Mr. H. still retains the eye, which is the source of no inconvenience to him, save such as arises from imperfect sight. Should fresh hæmorrhages occur, it is very likely that further glaucomatous symptoms will appear, and repeated hæmorrhages, accompanied by separation of particles of diseased choroidal tissue, would certainly be followed by fully developed hæmorrhagic glaucoma, with no choice but enucleation.

That enucleation was not a necessity in the case of Mrs. P. must, I think, in a great measure, be attributed to the fact that only a comparatively speaking small amount of diseased tissue was separated at the time of the hæmorrhages. As for treatment, I believe that the repeated extraction of blood from the temporal region was of far more value than

the internal medicines, in keeping the tension of the eyeball within the bounds of possible preservation. I found that the tension would sink to normal, and remain so a considerable time, after two applications of the artificial leech.

A Note on Deafness Occurring During an Attack of Cerebro-Spinal Meningitis.

Elsie S., aged 12, was taken with cerebro-spinal meningitis on April 1st, 1894. On April 3d, patient said to her father, "Why do you work your lips and say nothing?" Mr. S. discovered his daughter was absolutely deaf to all sounds. That night the little patient became delirious, and opisthotonos set in. The delirium lasted four days; the opisthotonos for four weeks. The other symptoms of the cerebro-spinal trouble were of great severity. At the end of seven weeks the patient was able for the first time to sit up. She was then stone deaf. She could talk, could read, write, understand signs—indeed, save that she was deaf, there was no impairment of her senses. No mental weakness.

Since May 15th treatment has been constant, with, as result, no demonstrable improvement in the hearing powers up to November 15th, 1894.

The question connected with this case is, what was the cause of the deafness? Meningitis. What part of the hearing apparatus was affected? It is not likely that it was the brain centres for hearing; for had this been the case, it is scarcely possible to believe that the inflammatory process would have limited itself to this area or these areas of the brain, leaving all other areas undisturbed. It is not likely that this deafness resulted from inflammation of the auditory nerves in the internal auditory canal; for it is little likely that, had this been the case, the facial nerves, occupying the position they do in the internal auditory canal, would have escaped all inflammation, and there were never symptoms to lead to the belief that the facial nerves were affected. It seems to me that the existence of the ductus endolymphaticus, with its termination in the recessus Cutugnii, is the channel responsible for this deafness. Lying as it does between the two layers of the dura mater, at the mouth of the aquæductus vestibuli, it is most likely that

the recessus Cotugnii should be affected in a basal meningitis, especially in children, where the aquæductus vestibuli is relatively larger and more important than in adults. When the inflammation has once spread into the recessus Cotugnii, its transmission thence by the ductus endolymphaticus to the inner ear is easily understood. It is by this channel, then, it would seem, that we are to seek the explanation of the sudden deafness occurring in many cases of cerebro-spinal meningitis.

That we are not to base our prognosis entirely on the amount of hearing existing immediately after the acute symptoms have passed away, the following case shows:

Miss K. G., aged 11, in August, 1894, had an attack of meningitis which, besides paralyzing her lower extremities, left her totally deaf for four weeks. At the end of this time her hearing began slowly to return, so that by the latter part of November she could hear loud voices, if spoken close to her ear. How much further improvement will take place remains to be seen.

In these cases of deafness following meningitis, it is not unlikely that there results inflammation of the ends of the auditory nerve in the vestibule; the inflammation may stop here or proceed to the cochlea or semi-circular canals. Since differentiation between inflammations limited to the vestibule and those affecting other parts or the whole labyrinth is beyond our power, our prognosis in regard to these cases of meningeal deafness should be guarded. The complete deafness sometimes supervening upon meningitis may not inaptly be compared with the complete blindness sometimes occurring in certain affections of the retina and optic disk. As in the latter case, the blindness may be entirely recovered from, so, in the latter, it sometimes happens that the hearing power returns.

We must remember, too, in giving our prognosis in these cases of meningeal deafness occurring in children, that the temporal bone has not attained its full growth. In examining these cases with the tuning fork, we must bear in mind that the vibrations may be felt, and thus the child may say

he hears something when the fork is placed against the mastoid, when in reality "the something" is only felt.

For these cases *the treatment* must begin early, and be persistent. Pilocarpine, sodii salicylate, iodide of potash, and mercurial inunctions are to be used as absorbents. Strychine, given in small doses, to be increased to the limit of toleration, should be given for its effect on the auditory nerve.

Two Cases of Complete Membranous Occlusion of the External Auditory Meatus.

Mr. M., aged 42, complained of deafness in his right ear. There had been considerable itching and some discharge from this ear for an indefinite time. Examination revealed more or less whitish membrane in the external auditory meatus. This proved to be mycotic in nature. When the external auditory canal had been carefully cleaned, it was found to be shorter than the one on the left side by about 5 mm. A membrane stretching across the canal could be made out; in this membrane, however, were wanting the characteristic appearances of the drum head. The external canal was somewhat occluded, preventing thus a complete view of this new membrane. Careful probing revealed the fact that the membrane thus seen, stretching entirely across the canal, was thin and did not cover the surface of a growth, as an exostosis, etc. The external canal was filled with a cocaine solution, following which, a probe covered with cotton bearing a small amount of chromic acid was carefully carried into the canal and pressed against the false membrane. A hole was thus made at its central part. Examination through this hole revealed a chamber, having the normal drum head for its internal wall, the inflammatory membrane for its external wall. The deafness which had existed in the right ear, before cleansing and making the hole in the drum membrane, now in a great measure disappeared, proving that there was no severe middle ear complication. Further than this, neither at this time nor at any time during the subsequent treatment, were there present evidences of middle ear trouble.

The subsequent treatment consisted in careful cleansing of the external canal, and in applications of chromic acid, until there had resulted a complete destruction of the false membrane.

The treatment extended over some weeks, as it seemed best to allow the inflammatory effects of one application of

the acid to disappear before making a second. Hearing became normal. In this case, it seemed not unlikely that the production of this membrane in the external auditory canal was due to the action of a double cause: temporary occlusion of the canal through a furuncular swelling, with, at the same time, ulceration of the skin of the canal, due to the presence in the canal of mycotic masses. Adhesions thus formed between the walls of the canal, which, as the furuncular swelling went down, tended to separate; the irritative action of the mycotic masses were, however, sufficient to furnish enough material to form a complete membrane for the canal as the walls returned more and more to their normal position. And this is all the more probable, inasmuch as there had resulted no inflammation of the membrana tympani, which would almost certainly have been the case had the mycotic inflammation existed internally to the place of formation of the false membrane.

In the second case, that of Mr. H., aged 30, there existed complete membranous occlusion of the external auditory canal at a distance from the membrana tympani of about 7 mm. In this case, there had existed since early childhood purulent discharge from both middle ear regions. In the left ear the result had been complete destruction of the drum with the malleus and incus, leaving the stapes in position and in full view. Result: absolute deafness. In the right ear there was to be seen, on examination through the speculum, a membrane extending completely across the canal, at a distance, later measurements proved, to be about 7 mm. external to the membrana tympani. When the middle ear was inflated (Valsalva) pus was forced through an opening about the size of a pin point directly in the centre of this membrane. Hearing, $\frac{1}{4}$. As in the first case, this membrane was destroyed by repeated applications of chromic acid.

In this case, the membrane was distinctly the result of granulations formed through the irritative action of the constant purulent discharges. In this case, the membrane was thinnest at its centre, thickest along the inferior wall of the canal, where it attained the width of several millimetres. The destruction of this false membrane opening up the external auditory canal caused but little, if any, improvement in the hearing power; for there was found to exist an extensive destruction of the drum-head, with, as far as could be made out, the hammer and anvil.

In regard to the *methods used for the destruction of false membranes as they occur in the external auditory canal*, I know of none equal to pure chromic acid. This should be applied in small quantities directly to the membrane at its central part, never at the place of attachment to the bone. A second application should not be made until the inflammatory effects of the first have disappeared. While following each application, cotton, wet with a bichloride solution, should carefully wash the part of the membrane to which the acid has been applied.

The Surgical Treatment of Chronic Empyema of the Antrum Maxillare.

Spicer (London) advises the following in those cases of empyema of the antrum which resist the ordinary measures: General anæsthetic; crucial incision over the canina fossa; with chisel and mallet, a large opening into the anterior wall of the antrum; bone chipped away to the level of the floor of the antrum, and a groove established down the alveolus; interior explored with the finger; curetted. The next step is to make two large openings into the antrum from the nasal cavity, the trochar and canula being inserted into the inferior meatus well behind the nasal duct opening. (The advantage of pushing the trochar from the nose into the antrum is that the particles of bone broken by the trochar can be removed. A dental drill might be used for this purpose, and these openings could be made, under cocaine, the following day.—J. D.) After irrigation of the antrum, it is packed with creolin gauze (iodoform gauze is probably better. It may be added here, that a good way of applying iodoform to the antral cavity, where our opening is the usual one through the root of a tooth, is to suspend the iodoform in albolene (5j to 5j) and inject with a dental syringe.) The gauze is allowed to remain forty-eight hours. No form of mechanical drain is used. Free irrigation thrice daily. Patient is instructed to force air through antrum into mouth.—*Journal of Laryngology*, Oct., 1894.

Department of General Surgery.

Conducted by STUART MCGUIRE, M. D., RICHMOND, VA.

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Fibroid Tumors of the Uterus.

"*The Medical Press and Circular*" of Dublin in its issue of November 21st, publishes a paper by Thomas More Madden M. D., F. R. C. S. Ed., on "The Pathology and Treatment of Fibroid Tumors of the Uterus."

The subject is of great importance to surgeons, especially those living in the Southern States, where the condition is frequently met with among the negroes; and as the views of so eminent an Irish gynecologist will be read with interest, an abstract of the paper will be given, even at the risk of not doing justice to the text.

Dr. Madden prefaces his remarks by saying that fibroid tumors of the uterus are more frequently met with, as well as better differentiated and treated, at the present day than was the case five and twenty years ago. The increased prevalence of this disease in his practice has been 20 per cent. among middle aged gynecological patients.

Uterine tumors are usually myomatous in origin, but the structural character in each case generally sooner or later becomes modified by the increased development of the connective tissue investing the muscular fibres of the neoplasm, which thus gradually converts a myoma into a so-called fibroma, and hence, the term "fibroid tumors" is applied by the writer to all non malignant growths within the uterine wall, or attached to either its mucous or serous surfaces.

The *symptoms* which usually indicate the presence of fibroid tumors of the uterus, apart from the abdominal enlargement, are hæmorrhage, due to uterine hyperæmia attending the development of a new growth; pain and local discomfort from the weight and pressure of enlarged uterus, or from the expulsive efforts of the uterus to expel a

sub-mucous fibroid; œdema and muscular cramps of the legs from pressure on the pelvic vessels and nerves; incontinence of urine and difficulty of micturition, from pressure on the base of the bladder or on the vesical neck; and lastly, hæmorrhoids, tenesmus, and obstructed defecation when the rectum is similarly affected. In all such cases, the patient's general health is ultimately impaired by the process of the disease: Weakened by the hemorrhagic and leucorrhœal discharge, she becomes anæmic, and loss of appetite, dyspepsia, and irritation of the stomach may be regarded as among the consequences of uterine myomata.

The *diagnosis* of uterine fibroids from ovarian tumors is based on the age of the patient; the solidity, rapidity of growth, position of the tumor, and size of the uterine cavity. The *differentiation* between subperitoneal uterine fibroma and ovarian or parovarian tumors, is a matter of greater difficulty, and in some cases impossible until the abdomen is opened.

The possibility of a spontaneous cure of uterine fibroid is discussed at some length by Dr. Madden, and a number of cases are cited to prove that absorption does sometimes occur, and that this can occasionally be produced by the administration of ergot and iodide of potash. Irrespective of removal by absorption, fibroids may also be got rid of by other natural agencies. Thus, an interstitial tumor may undergo a slow process of softening and disintegration, consequent on which it begins to come away in detached fragments, or in a semi-fluid state. In this way a cure has in some cases been effected, the whole tumor being gradually discharged per vaginam or rectum. Unfortunately, however, the probability of any favorable natural termination in such cases is far too remote to have much practicable bearing on the general prognosis and treatment.

The degenerative changes to which uterine fibroids are liable are classified as cystic, malignant and calcareous.

Cystic degeneration is particularly liable to occur in cachectic patients of the poorer class, whose general condition has been impaired by privation, as well as long continued pain.

hemorrhage and leucorrhœa. Cystic growths generally result from mucoid degeneration in the cellular interspaces of the tumor, forming cavities containing serous or gelatinous fluid.

Malignant degeneration is the metamorphosis of the fibrous and muscular elements of the tumor into carcinoma.

Calcareous degeneration results from a change in the structure of a fibroid tumor similar to that observed occasionally in the arterial system in advanced life, and is due to the deposit of salts of lime in combination with, or in place of, the fibrous tissue.

Under the head of *treatment of uterine fibroids* Dr. Madden briefly refers to the various methods, medical and surgical, that may be resorted to in such cases. Before alluding to their details, he says that while fully recognizing the utility in appropriate cases of some of the operative procedures, he still remains none the less convinced that the general necessity of surgical interposition is greatly over-estimated; and that a large proportion of fibroids call for no active treatment. He states that he has hardly ever seen a death directly ascribable to fibroid tumors, while on the other hand he has often witnessed that result in consequence of an operation.

He divides the *surgical procedures* employed for the relief of fibroids into two classes—the vaginal and the abdominal operations—and then takes up the different methods serially.

1. *Ecrasement*.—Any submucous tumor, which has become pedunculated or extruded so far into the uterine cavity as to permit of encirclement, may be removed by *ecrasement*. For this purpose, the uterus being previously thoroughly washed out with an antiseptic solution, the patient is etherized and the cervix well drawn down. Then the projecting tumor is to be similarly pulled down by another strong vulsellum, over which a loop of wire is to be slipped and guided around the tumor to the pedicle, on which the slack of the wire may be run until it begins to bite on the included structure. The operator having satisfied himself

that no portion of the uterine wall is thus embraced, the division of the pedicle may be slowly and cautiously proceeded with, until the tumor has been freed from its uterine attachment, after which it may be drawn out by vulsellum, or, if too large to be thus delivered, by the short midwifery forceps. The vagina and uterine cavity should be again washed out with a hot antiseptic solution.

2. *Enucleation.* This operation, which is now comparatively little employed except in cases of submucous tumors, is also applicable to some intramural fibro-myomata.

The cervical canal must be dilated and the patient placed in a semi-prone lateral position and etherized. Next, the uterus should be washed out with a hot carbolized injection. A free incision may then be made through the intervening structure and capsule, into the most prominent part of the tumor. This should now be drawn firmly downward in the direction of the pelvic outlet by a vulsellum, whilst at the same time all adhesions around the tumor are broken up digitally if possible. Lastly by traction from below, aided by firm pressure from above, the fibroid is forced out of its bed and extracted.

3. *Removal by Traction.* In the case of deeply imbedded myomata not encapsulated, removal by traction may possibly be resorted to. The object of this method is the immediate conversion from an intramural, or sessile, into a pedunculated polypoid form by traction on the tumor, followed by its removal piece by piece from the vagina by blunt pointed scissors curved on the flat.

4. *Removal of the Uterine Appendages.* Removal of the uterine appendages may be demanded for arrest of hæmorrhages or relief of suffering, or in order to check growth of rapidly increasing fibro-myomata not removable *per vias naturales*. Such is more especially the demand in cases of myoma occurring in young patients, in whom prospects of arrest of tumor by the natural menopause is remote, and who, if they survive until then, are necessarily condemned to lives of suffering. Under these circumstances, therefore, there can be little question of the propriety of attempting

by salpingo-oöphorectomy to anticipate the menopause in any case in which this is feasible.

But, continues Dr. Madden, such cases do not prove the advisability of adopting any operative measure as a rule of practice in myoma. Nor, is the operation generally called for, or advisable in the case of quiescent fibroids occupying the abdominal cavity in older patients. In these cases, the difficulty of removal of uterine appendages are most marked in instances in which, if practicable, it might be useful. Thus in large subperitoneal or interstitial fibroids which lift the uterus above the pelvic cavity, it may be found impossible to reach the ovaries and tubes until the uterus is first detached from these adhesions and turned out of the abdominal cavity.

Therefore, whilst surgeons should be prepared to adopt salpingo-oöphorectomy in those cases of fibro-myoma in which it may be necessary, they should first note well the circumstances of each individual case and then act, *nec temere, nec timide*.

5. *Hysterectomy*.—Dr. Madden says that the more heroic surgical procedures, such as hysterectomies, either by vaginal or abdominal methods, should be regarded as the ultimate resort of the surgeon, and can often be obviated by timely salpingo-oöphorectomy.

The operations of morcellement, myotomy, and hysteromyomectomy are not discussed, but characterized as unsurgical and sanguinary in their technique, and so liable to be followed by septicæmic complications as to preclude any fear of their general adoption.

6. *Treatment by Electricity*.—Dr. Madden called attention to the value of Dr. Apostoli's method of treating uterine tumors by the galvanic current, and says that probably the strongest testimonial adducible in its favor is the conversion to its employment of Mr. Keith. In the hands of the writer, this method had been found of value as a means of arresting hæmorrhage in some cases of uterine fibroid in which the circumstances of the patient admitted of the

effective employment, and in several cases there was a marked diminution in the size of the growth.

7. *Non-Surgical Treatment.*—Dr. Madden says that it is the obvious duty of gynæcological practitioners before resorting to any operation, to give a fair trial to that alternative medical treatment, which, his own experience and that of others has shown, may occasionally be found serviceable either in arresting or diminishing the progress of uterine tumors, or in alleviating their symptoms and restoring the patient to comparative health and comfort.

The most prominent symptom of fibro-myomata, especially if submucous and occurring before the menopause, being uterine hæmorrhage, the arrest of this must be a primary object of treatment. For this purpose the patient should be kept at perfect rest from the time when the recurrence of the discharge is expected until the menstrual period has completely passed over; after which, should the loss still continue, at once resort to the free use of ergotine, or, preferably, of the ordinary liquor ergotæ (B. P.) hypodermically and by the mouth. Or else, for the same purpose and generally with marked benefit, in such cases employ that best and too little appreciated of hæmostatics—namely, rectified spirits of turpentine in twenty-drop doses every third or fourth hour until bleeding is checked.

Hæmorrhage occasioned by uterine fibroid, can, in most cases, be controlled by these measures. Moreover, by the long-continued employment of ergot hypodermically or by the mouth, in some instances such a diminution in the size of the tumor may be occasioned as to render further treatment unnecessary.

Of the local means by which congestive hypertrophy of the uterus attending development of fibro-myomas, as well as the vascularity of the tumor itself, may be diminished and consequent hæmorrhage checked, none is so beneficial as hot-water irrigation. For this the cervical canal must be previously dilated and the irrigation persistently employed at regular intervals, and for a lengthened period on each occasion.

Dr. Madden says that another and hardly less important therapeutic indication in such cases, is that of stimulating the activity of the local absorbents in the hope of thereby inducing some diminution of the tumor. Among the remedies available in this way, are iodide of potassium, bichloride of mercury, and small doses of tincture of iodine.

He has also seen some benefit from the administration of chloride of calcium, which acts by inducing a certain amount of calcification and consequently diminished vitality in the neoplasm.

The conservative views of Dr. Madden regarding the treatment of uterine myomata, and in strong contrast with the present trend of opinion on the subject in this country, and as far as space would permit, have been given in the phraseology of the author.

Undoubtedly the surgical fever of the day, and the personal ambition of some surgeons, have rendered the operations of hysterectomy, even with the gratifying results obtained, more frequent than the conditions for which they were performed would justify; and thoughtful consideration of the conclusions reached by Dr. Madden in his article will be beneficial both to the profession and to patients.

The assertion that fibroid tumors of the uterus rarely cause death, however, must be taken *cum grano salis*, and it must be remembered that even in cases in which life is not immediately threatened, a condition is sometimes produced which is worse than death itself.

In the non-surgical treatment of uterine myomata nothing is so important as rest; and confinement to bed, if the patient's general condition will permit, will nearly always be followed by diminution in the size of the tumor, and relief of the most distressing symptoms.

Irrigation of the cavity of the uterus with water at a temperature of 120° F. lessens the congestion and checks hæmorrhage. It is attended by danger, however, and hot vaginal douches are usually employed as a substitute.

Painting the cervix with iodine and the use of tampons, saturated with glycerine, both do temporary good.

Electricity has been lauded by some and condemned in equally strong terms by others. It undoubtedly has its place in the treatment of uterine fibroids, and when properly employed, is productive of good. It checks hæmorrhage, relieves pain, and diminishes the size of the tumors by stimulating the activity of the local absorbents and relieving passive congestion.

Ergot, turpentine, and sulphuric acid are useful to control hæmorrhage, and ergot is sometimes employed to render an interstitial tumor sub-mucous or polypoid, by exciting uterine contractions, and thus removable by ecrasement.

The administration of tincture of iodine, iodide or potash, bichloride of mercury, and chloride of calcium are of doubtful utility.

A faithful, judicious and continuous trial of the above methods will sometimes enable a patient to live in comparative comfort, but often they will prove unavailing; and the patient, weakened by loss of blood, and worn out with suffering, will demand more heroic treatment. Tinkering and procrastination then cease to be conservatism, and operative interference must be attempted at any hazard.

Experience has not confirmed the claims made for salpingo-oöphorectomy by Lawson Tait. The arrest of hæmorrhage, due to uterine growths by the removal of the ovaries and tubes and the production of an artificial menopause, was suggested nearly fifty years ago by Blundel, and put in practical use by Tait, Battey, and Hagar, at nearly the same date.

Great difficulty, and often failure, is experienced in attempting to remove the ovaries and tubes; phlebitis, septicæmia, and pyæmia sometimes follow injury to the large venous sinuses, which are invariably present, and the hoped for result is by no means certain to follow the operation—hæmorrhage and growth of the tumor frequently continuing.

When the use of the knife is necessitated, the general consensus of opinion seems to be that a hysterectomy should be performed, and the uterus removed.

The operation may be done vaginally or abdominally, the choice of the routes depending on the size of the mass, and the patulency of the vagina.

How to treat the stump after abdominal hysterectomy is still a mooted question, and the choice between the intra-peritoneal and extra-peritoneal methods should be largely decided by the experience of the surgeon. So far, the statistics are all in favor of fastening the stump in the abdominal wound.

It is certainly an unsurgical proceeding, however, to strangulate a large mass of tissue in a cup shaped excavation of raw tissue, from which no secretion can escape, and wait for separation to occur by dry necrosis, which is but a polite name for gangrene. It is to be hoped that the men who advocate the intra-peritoneal method will perfect their technique, so that the stump of a hysterectomy may be as safely left in the abdominal cavity as that of an ovarian tumor.

The Index Medicus.

The generosity of Mr. George S. Davis, of Detroit, since January, 1885, has made it possible for the profession to receive the benefits of this invaluable journal to searchers of the literature of subjects. But the panic of 1893 has so diminished the number of subscribers as to constrain the Publisher to announce that he will have to discontinue its publication with the January issue, 1895, unless greater encouragement is given by the American profession. It requires about 800 or more paid-up \$10 annual subscribers to enable Mr. Davis to meet expenses. We sincerely trust that those of our subscribers who are able to make annual contribution of ten dollars to so worthy an object will at once remit that amount to Mr. Davis for the purpose indicated.

Antikamnia in la Grippe.

Dr. Thos. Hunt Stucky, Professor of Surgical Pathology and Clinical Surgery in the Hospital College of Medicine, Louisville, says that he is "using Antikamnia daily with most gratifying and satisfactory results;" and adds: "It is the thing 'in la grippe.'"

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

Treatment of Epithelioma of the Skin.

Dr. M. B. Harzell, whose name is familiar in connection with the study of prosopernosis, contributes an article to the *Therapeutic Gazette*, of November 15, 1894, on the treatment of epithelioma of the skin. The subject is a trite one, but always interesting owing to the frequency of the disease and the seriousness of its prognosis.

The latter is frequently due to the neglect on the part of medical adviser of small superficial growths, though recognized as malignant. Such neglect accounts for the too frequent failure of treatment, which was actively undertaken too late. A small nodule may remain quiescent for years, and suddenly take on so rapid a growth and involve so rapidly important structures and parts as to resist all efforts of the knife or caustic to stay its progress. He therefore emphasizes the paramount importance of *early interference*. If treatment is begun early while the lesion is small, not only will less disfigurement result, but the chances of permanent cure will be enormously increased.

There is no specific for carcinoma. All internal remedies which have been lauded as curative have failed completely when submitted to the test of experience. There is but one way to successfully cope with the disease, and that is to remove or destroy it by local treatment. There are various ways in which this destruction may be accomplished. In many instances, excision is the surest and speediest way of removing the neoplasm, but the consent of the patient cannot always be gained.

Failing to receive this, another operative measure is erosion or scraping out the diseased tissue with a curette or sharp spoon. Curetting should be thorough and followed

by the use of caustics; else the usefulness of this method is very limited.

Another method of dealing with this malady is by cauterization with the electro-cautery or the actual cautery. The method is open to objections, however, from being painful, apt to produce considerable scarring, and the idea of being burnt is terrifying to the patient.

Of all means at our command for the treatment of epithelioma, the chemical cauterants are the most generally useful.

Our selection of a caustic is guided by the thoroughness with which the tissues are to be killed. The mild caustics, such as lactic acid and trichloroacetic acid, are of little avail since they do not penetrate deeply enough.

One of the most reliable chemical cauterants is *arsenic*. It attacks morbid tissue in preference to the healthy, and is thorough in its action. It is usually applied in the form of a paste in varying proportions. Its use is open to objections on account of the extreme pain which it occasions, and the danger of toxic effect when applied to a large surface.

Chloride of zinc acts rapidly, and may be made to penetrate to any depth, and is one of the most reliable and thoroughly efficient agents of its class. It is suitable particularly for large, deep growths, and renders the blood-vessels impervious, so that hæmorrhage does not occur.

It is best applied in the form of a paste made up with flour and water, twenty-five to fifty per cent. strength (Canquoin's paste). It produces a leathery eschar, and its action ceases at the end of fifteen or eighteen hours, owing to the impenetrability of the slough formed.

Potassium is a caustic of power, but is deliquescent, and tends to spread much beyond the point to which it is applied. The tendency is counteracted by using vinegar, or dilute acetic acid when the desired depth has been reached.

Very useful and specially indicated in small superficial epitheliomata of the face, is *pyrogallol*. It is slower in action than any of the preceding, and hence the amount of tissue

to be destroyed can be easily regulated; it is nearly or quite painless, and produces much less inflammatory reaction in the surrounding parts than any of the foregoing agents.

The eschar formed by chloride of zinc or pyrogallol may be removed by the application of lint, kept wet with saturated boric acid solution for thirty-six or forty-eight hours.

In conclusion, the author again urges early interference, and believes that a large number of cases which would refuse operative measures would readily submit to this form of treatment, and with entirely satisfactory results.

Personally, I have found thorough curettage, followed by the use of Marsden's paste (white arsenic, gum arabic, equal parts, water enough to make a paste), a very efficient means of treatment for small superficial epitheliomata of the face.

The curetting is done under cocaine anæsthesia; the cocaine being injected around the borders of the growth or applied in 20 per cent. solution on a pledget of cotton. I am able, with the dermal curette or small sharp spoon, to remove the diseased tissue included within the indurated borders with ease. The sharp, rasping sound indicates that the curette has reached the level of healthy tissue. I do not attempt to remove the indurated border, as it is next to impossible to effect this with a curette. The tissue is entirely too dense and hard, and the curette merely glances over it without removing any of it.

I also use, instead of Marsden's paste, Unna's gutta-percha plaster mull, containing arsenic, creosote and hydrochloride of morphine, and find that the two latter agents do much toward relieving the pain of the application. I have found little or no benefit resulting from the use of methyl blue.

As to *internal remedies for cancer*, Dr. Carne Ross, of Manchester, England, has recently recommended the use of a decoction of *cinnamon*, freely administered. He claims to have found it of use in relieving pain, and to have observed some arrest of progress of the disease in some of his cases. The remedy will probably prove to be no remedy at all.

Case of Gonorrhœa Aborted by the Use of Nitrate of Silver.

Dr. J. Tilden Brown reports a case before the Academy of Medicine under the above title. A diagnosis of gonorrhœa was made four or five days after infection. Gonococci were found in the urethral discharges, and it was decided to make an attempt to abort the attack. The patient was placed in a prone position, a short speculum introduced, and the urethra moderately dilated. The canal was cleansed with a three per cent. solution of peroxide of hydrogen, and then a six per cent. solution of nitrate of silver was applied and the speculum slowly withdrawn. Following this there was considerable swelling and discomfort, and a little blood was passed on urination. The next day the discharge was very slight, and the man was given an injection composed of zinc, lead and hydrastis. There was no discharge on the three following days. Five days after beginning the treatment, one gonococcus was found in the urinary sediment, and thereafter there was no urethral discharge, and repeated microscopic examinations proved negative.

Dr. Brown further stated that in a very severe case of gonorrhœa abortive treatment, undertaken three or four days after the outset of the attack, as it was in this case, would prove futile. Even if undertaken on the very first day of a very violent attack of specific urethritis, it would probably not be successful in more than fifty per cent. of the cases. In applying the treatment, it is well to distend the urethra in order to gain access to the crypts and ducts of the glands. The preliminary use of the hydrogen peroxide is of value as a cleansing measure.—*Journal Cut. and Gen. Urin. Diseases*, Dec., 1894.

Researches in Cutaneous Absorption.

Dr. Renaud, in a communication to the *Société Thérapeutique*, gives the results of experiments on this subject. Following those of Roussain, made thirty years ago, he found that the human subject absorbed nothing so long as the body is immersed; but that there is a rapid absorption of the

salts deposited upon the surface of the body in a pulverized state as soon as the water has evaporated.

No trace of iodine is found in the urine or expectoration of a person who has been immersed in a bath containing 200–500 grains of iodide of potassium, if the surface be washed off immediately after emerging from the bath. But if the iodide of potassium is allowed to dry on, either after a bath or when brushed on in solution, iodine is found both in the urine and expectoration. It can also be found after the body has been rubbed with the salt reduced to a fine powder. The author has been able to cut short attacks of intermittent fever in infants by rubbing the body with a solution of quinine.—L. Brocq, *Ibid.*

A Nodular Eruption Following the Use of Iodide of Potassium.

The following case may be of interest as presenting quite unusual skin manifestations of iodism :

The patient, a negro woman, fifty years old, of good general health and the mother of several healthy children, came to my clinic in October and desired to be treated for an eruption of the skin, which had existed about five weeks. The eruption was well generalized, but showed preference for the face and head. The lesions of the face were the most characteristic, and consisted of numerous nodules, about the size of a horse-chestnut, and projecting about one-fourth of an inch above the skin. The skin over the nodules was dull-red in color and roughened. The nodules gave a hard, shotty unyielding feel on palpation, and were quite insensitive. There was a slight zone of redness at the base of the nodules. The nose did not present any definite lesion, but was symmetrically enlarged, bulbous, of a dark-red color, somewhat waxy, and translucent. The enlargement produced great deformity, and made the nose appear like that of a comic mask. The lesions elsewhere on the body were of a nodular character. The appearance of the face reminded one of the *facies* of tubercular leprosy, except that the lips, ears and eyebrows were unaffected.

The woman denied having had syphilis, and this statement was in a way corroborated by the absence of any evidences, remote or recent, of specific disease.

The patient stated that some time before the appearance

of the eruption, she had been taking the so-called "blood-medicine" of an itinerant quack of the "Indian doctor" variety. The preparation, which was called "Indian tea," was found to contain a large amount of iodide of potassium.

The lesions disappeared without ulceration or suppuration upon the discontinuance of the "tea," but left patches of brown pigmentation behind to mark their former seat.

Cases of a nodular eruption following the use of potassium iodide have been reported, but are of sufficiently rare occurrence to warrant the report of this one.

Glycosuria Following the Use of Thyroid Extract.

A. Morton, of Glasgow, reports in the *British Journal of Dermatology* (No. 6, 1894), the case of a 45-year-old man who had been treated for an inveterate psoriasis with two tablets of thyroid extract daily without any effect upon the disease. When the dose was raised to four tablets daily, in the course of a week, congestion, palpitation of the heart, mental depression, trembling of the hands, etc., appeared. During the second week, the patient complained of difficulty in breathing and the pulse mounted to 132 beats to the minute. The odor of acetone was perceptible in the breath. The quantity of urine was markedly increased, showed a specific gravity of 1032, and responded to all the tests for sugar. Treatment was discontinued, and the general condition became much improved. In a short time all the symptoms disappeared, but the psoriasis remained unaffected.

Rebekah Sanitarium.

The Private Hospital of Dr. Charles G. Cannaday, in Roanoke, Va., is being enlarged and so arranged as to receive both male and female patients. The capacity is also being increased so as to accommodate eighteen patients. This institution is thoroughly equipped, and under the efficient management it now has, it deserves the success it is meeting with. Notice the new advertisement of Rebekah Sanitarium.

Proceedings of Societies, Boards, etc.

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

The Seventh Annual Session was held in Charleston, S. C., November 13th, 14th, and 15th, 1894.

We regret that it occurred just at the time when our space is so overcrowded as to leave less room for a report of the proceedings than we had intended, but from time to time we will introduce a number of the papers presented, or abstracts of them. By an oversight in the heading of the synopsis of the paper by Dr. Bedford Brown, of Alexandria, Va., on "*Observations on the Action of Chloroform on the Functions of the Human Brain and Spinal Cord, as Witnessed, etc.*", given on page 883 of our December number, we failed to state that that paper was one of the important ones read before the Association.

The President, Dr. Cornelius Kollock, of Chester, S. C., called the Session to order. The Secretary, Dr. W. E. B. Davis, of Birmingham, Ala., was at his desk. The attendance was not as large as usual, but included many of the leaders of the profession. Mayor Ficken welcomed the gathering in happy and well-timed remarks. Dr. E. L. Brodie, President of the South Carolina Medical Association, also welcomed the doctors to the professional hospitalities of the profession of South Carolina. These addresses were responded to by Dr. Kollock.

Dr. W. E. Parker, of New Orleans, read a "*Memorial Address on Dr. Warren Stone, of New Orleans*," which Address had been prepared by the late Dr. A. B. Miles, of New Orleans, just previous to his recent death.

Gonorrhœa in Women.

Dr. J. B. S. Holmes, of Atlanta, Ga., has no doubt but that many of the chronic ovarian and tube diseases are due to gonorrhœa. In most cases, the woman is ignorant that she has had or has any specific disease. Indeed, the husband may believe himself cured of the attack of gonorrhœa contracted long before his marriage. Nothing is more dangerous than curretting the uterus in the presence of immense pus tubes with pelvic adhesions. Drawing down the uterus to curette it may break up the adhesions and empty the pus sacs into the peritoneal cavity, which would generally kill. Abdominal section alone, with thorough irriga-

tion and drainage, will save the patient's life. Then why not, as soon as pus is detected, promptly remove it surgically? Such gives her the best and only chance of relief and restoration to health.

Dr. George J. Engelmann, of St. Louis, does not regard acute gonorrhœa in women as a dangerous disease, but he does the latent or chronic form. It is the infection not observed from a supposed cured case in the male which produces the suffering in the female.

Dr. Bedford Brown, of Alexandria, Va., cited a case to disprove the statement just made by Dr. Engelmann. An acute gonorrhœa in a female ran its course, causing first urethritis, then cystitis, then ureteritis, then pyelitis, and finally fatal acute nephritis.

Dr. Richard Douglas, of Nashville, said there is a great difference between the infection of acute and chronic gonorrhœa. The latter is a mixed infection, not only with the gonococcus, but with the streptococcus and staphylococcus also, and this accounts for the virulence of chronic gonorrhœa in women. He could scarcely accept the teaching that gonorrhœa is the cause of fibroids.

Dr. Joseph Taber Johnson, of Washington, D. C., endorsed Dr. Holmes' treatment of pus tubes the result of gonorrhœal infection; only he would remove the uterus also, because it is through the infected mucous membrane of the uterus that the tubes themselves have become infected.

Dr. Wm. Perrin Nicolson, of Atlanta, said it is hard for him to accept the doctrine that a man cured of gonorrhœa can transmit the disease to his wife.

Dr. A. M. Cartledge, of Louisville, remarked upon the great prevalence of artificial abortions in young married women. He believes we have a more fertile source for the development of tubular and ovarian disease from pathogenic organisms in these cases of secondary infection than from gonorrhœa.

Dr. W. E. B. Davis, of Birmingham, Ala., thinks the views of Tait in regard to gonorrhœa extreme. More or less infection occurs after all cases of abortion; but if the patient is in good condition at the time, she will not be materially affected. If we have a soil favorable for the development of septic germs, we will get a severe inflammation—a mixed infection.

Dr. W. D. Haggard, of Nashville, is opposed to removal of the uterus and tubes for gonorrhœal pyosalpinx, be-

lieving that dilatation and curretting can relieve a gonorrhœal endometritis.

Dr. J. D. S. Davis, of Birmingham, Ala., stated that the latent effects of gonorrhœa are not always due to the gonococcus, but to a mixed infection. When we have a mixed infection, pus tubes, suppurative peritonitis, and finally death result unless surgery is resorted to. He emphasized the importance of using the microscope in connection with gonorrhœa and carefully examining the pus.

Dr. Hunter McGuire, of Richmond, Va., protested against the doctrine that a man can have gonorrhœa and not get well. He had seen many cases get well and remain so. It is, therefore, preposterous to urge that a man who has gotten well of gonorrhœa should not get married.

Dr. Holmes, in closing, wished to be understood as not endorsing the extreme views of Tait and his school, that gonorrhœa in the male is never cured. Yet practitioners are often too careless in advising patients to get married who have not fully recovered from the disease.

Dr. A. Morgan Cartledge, of Louisville, reported

Six Cases of Acute Intestinal Obstructions, with Deductions.

Three cases ended fatally. Acute obstruction is almost hopeless unless treated early by laparotomy. We should withhold opium until a diagnosis can be made. The cardinal points in making an *early diagnosis* are: Sudden abdominal pain; rapidly accelerating pulse; vomiting of much more fluid in a given time than is taken by the mouth; the green-tinged character of this fluid; the anxious expression of countenance when no opium has been used; although enema may be stained by the contents of the colon, there is no expulsive movement of the bowels; and there is no passage of gas. *Timely aid* depends upon the doctor who first sees the case. When a patient's bowels will not move, the doctor should drop everything else, and centre all his attention upon that patient. Lose no time in trying to diagnose between intussusception, volvulus, band, diverticulum or what not—leave that for the immediately to be performed operation to determine.

Immediately after dinner, the Association adjourned to accept as a body the invitation to visit Summerville, where Capt. M. F. Wagoner, the owner of the now famous Pine Forest Inn, most royally entertained his guests.

During the *Morning of the Second Day*, Dr. Cornelius Kollock delivered the "*Address of the President*," in which he gave a short sketch of the Association, its objects, success,

etc. He referred feelingly to the deaths of Dr. Miles, of New Orleans, and Dr. Briggs, of Nashville.

The following are the titles of papers (except that by Dr. Bedford Brown, above referred to), which were next read and discussed :

Dr. F. W. McRae, of Atlanta, reported a

Case of Hernia of the Diaphragm—Death.

Without warning or time for research, he was called to a case in which strangulation had occurred five days before. The opening in the diaphragm was accessible, and he believes it could have been closed with a fair chance of permanent recovery had an early diagnosis been made.

Early Operation in Appendicitis, with a Case,

Was the title of a paper by Dr. J. McF. Gaston, Professor of Surgery in Southern Medical College, Atlanta, Georgia. Whenever diagnosis is clearly established, operation is demanded without delay ; but the surgeon is often confronted with the fundamental difficulty of unmistakably diagnosing appendicitis at an early stage of its development. In the incipient stage, there may exist a certain degree of sensitiveness on pressure immediately over the site of the appendix, and this tenderness, revealed by cautious palpation, may serve for the recognition of an incipient inflammation when there is no perceptible thickening or induration in the tissues of the appendix. Not only should external examination be carefully made, but digital exploration by the rectum should be directed to the discovery of the seat of the inflammation in the appendix. In most instances, there are some concomitants manifested in the derangement of the alimentary canal prior to the extension of the inflammatory process. There may be either a disposition to frequent evacuations, or a state of intestinal torpor, in which it is difficult to arouse the peristaltic action of the bowels by purgatives or enemata. During this period, there usually exists a febrile state, with only slight rises of temperature, so that nice discrimination will detect a departure from the normal condition. Circumscribed involvement of the surrounding structures, exciting adhesive inflammation in the serous tissues, shuts in the exudation from the cavity of the appendix, and thus forms a local abscess. Usually, the septic matter permeates in different directions, and sets up general peritonitis. In the uncertainty of diagnosis, exploratory incision may be made to determine the facts. Make a transverse incision in the iliac region, separate the mus-

cles without cutting their fibres, as suggested by McBurney, and if nothing is revealed requiring further surgical interference, the opening may be closed by suturing the peritoneum with catgut in the continuous form of suture, while the muscles, fascia, and skin, are brought together by interrupted suture of iron-dyed silk. The observation may be worth recording, that he has observed in some cases of appendicitis in men a "peculiar" pain in the penis.

When definite diagnosis of appendicitis is made, make a three or four inches incision outside of the right rectus abdominis muscle, extending perpendicularly downward over the cæcum. If a suppurating tract should be discovered, extending upwards towards the liver, the incision may be carried upward along the linea semilunaris to any extent required for exposing the sulcus or the sinus containing the pus. The difficulties in exploring the right iliac region by an incision of the linea alba have led to its abandonment.

Dr. Gaston has been impressed that abdominal surgeons have gone to an extreme of late, in condemning opiates in all conditions presented in cases of appendicitis. While avoiding "locking up the bowels by opium" in threatened peritonitis, and urging free catharsis with salines to prevent peritonitis, he claims that it has been overlooked that there is often an element of pain and restlessness which requires an anodyne. Hence he is convinced that an opiate influence is often attended with a salutary effect in cases of surgery for appendicitis, as shown by the altogether satisfactory results in the case he reported.

From a general consideration of ileo-cæcal troubles, he draws the following inferences:

1. Evacuate all collections of pus by free incision, followed by gauze drainage.

2. If the appendix is involved in the abscess, and already in a necrosed state, it is fair to infer that the canal is closed so that there is no communication with the cæcum, and hence excision is not requisite.

3. But if the appendix is enlarged and indurated without perforation, it should be ligated and removed at once.

4. *In suspected appendicitis*, without local swelling, or induration, or sign of suppuration, at once do an exploratory operation by transverse incision above Poupart's ligament, with separation of muscular fibres.

5. *In clearly diagnosed appendicitis*, make a longitudinal

incision along the outer border of the right rectus muscle, and extend it downwards over the cæcum.

6. In all cases of recent occurrence, in which suppuration has not appeared, but an inflammatory process of the appendix exists, it should be removed.

"*Gunshot Wound of the Spleen ; Hæmastasis by Deep Suture—Recovery*," by Dr. L. McLane Tiffany (of Baltimore), moved to New Orleans since the adjournment of the Session.

History of Vaginal Extirpation of the Uterus.

Dr. George J. Engelmann, of St. Louis, stated that at the New Orleans meeting of the Association Dr. Lewis, of that city, called his attention to an old French pamphlet, showing that the operation had been done in the '20's. Since then he had found it was done still earlier precisely as it is done to-day, the operation having developed step by step.

Dr. Lewis, of New Orleans, stated that the first vaginal hysterectomy was performed by Dr. Dabourg in the little town of Autell, France.

Dr. Edmond Souchon, of New Orleans, read a paper entitled *Reminiscences of Dr. J. Marion Sims in Paris*.

Dr. George H. Noble, of Atlanta, Ga., reported *A Case of Carcinoma of the Parturient Uterus, Removed Three Days After Confinement—Recovery*.

Simultaneous Appearance of Cancer In Breast and Uterus.

Dr. James Evans, of Florence, S. C., said the subject of this interesting manifestation was a lady 53 years of age, married, and the mother of six children. A striking peculiarity in the history of the case was, that when the disease was most active and destructive in the breast, it rather checked and retarded its tendency in this direction in the uterus. Excision of the cervix and removal of the breast were proposed, but declined. Although there is a very general consensus of opinion that the most successful treatment is early and radical removal by the knife, yet it is doubtful if operation is advisable when the disease appears in multiple form and in distant organs. When the disease is confined solely to the uterus and recognized at an early stage of its invasion, the prompt removal of the organ is usually followed by permanent recovery; in fact, recurrence less often takes place than removal from any other organ or part of the body.

Dr. W. E. Parker, of New Orleans, reported seven cases of—

Varicocele, Treated by Incision, Ligation, and Shortening of the Scrotum.

An incision, varying in length according to the size of the varicocele, is made, and the scrotum shortened by converting the wound from a longitudinal to a transverse one. All cases recovered with union by first intention, and are still doing well, the period since the first operation being seven months. He gave the following general indications for the treatment of varicocele: The milder forms should be treated with a suspensory bandage, with proper attention to diet, exercise, and bowels. A varicocele should be operated upon—1, if it is of large size; 2, if it is painful; 3, if marked nervous symptoms be present; 4, if the testicle is atrophying; 5, if the varicocele is increasing rapidly; 6, if it is an obstacle to entering a public service; 7, if, on account of a patient's occupation, a suspensory is troublesome and he desires an operation.

Dr. Rufus B. Hall, of Cincinnati, Ohio, reported a *Case of Fibroid Tumor of the Uterus with Suppurating Ovary Discharging per Rectum—Recovery.*

Dr. J. G. Earnest, of Atlanta, Ga., contributed a short paper in which he reported *some complicated cases of pelvic surgery.*

The Removal of an Intra-Uterine Fibroid Tumor by Morcellement Without Hæmorrhage.

Dr. Herbert M. Nash, of Norfolk, Va., stated that in September, 1892, he saw in consultation Mrs. A., aged about 42 years, the subject of intractable hæmorrhages from the uterus, lasting from two to three weeks of each month, and which had been habitual for several years. The uterus could be plainly felt above the pubes, and by the conjoined method, sound, and so forth, the diagnosis of intra-uterine fibroid was made. She continued under the care of her physician, whose best efforts to control the hæmorrhage proved fruitless. On August 26th, the essayist operated under ether. It was quite impossible to dilate the os to the extent desired, but there was room enough for manipulation without dividing the cervix, and no difficulty was found in seizing the presenting mass—the attachment of which to the uterine walls had been made out to be sessile—with a strong volsellum. Upon making traction with some force, in order to determine the best method of procedure, the tissue gave way, and the withdrawn part of the detached mass was quite large, but no bleeding followed. This fact decided him to proceed by morcellement, and with the forceps, scis-

sors, and the instrument he exhibited, the whole growth was removed piecemeal, and with only a slightly colored serous discharge. The previous packing had been so effectual that the growth itself, and indeed the uterine walls, appeared to have been exsanguinated. The fragments removed, when under strong compression, presented a mass of fibroid tissue nearly as large as an ordinary cocoanut. When the patient left the hospital, the uterus had contracted firmly and measured a fraction over three and one-half inches in depth, occupied its proper position in the pelvis, and the patient is to-day entirely well with perfectly normal functions.

Adjourned for dinner, and afterwards took a trip about the harbor.

During the *Third Day*, the following papers were read and discussed:

Dr. Wm. Perrin Nicolson, of Atlanta, Ga., after reporting a

Severe Case of Nævus of the Face Cured by the Galvano Puncture,

Formulated the following conclusions growing out of a study of the case:

1. While this treatment may not be applicable to all cases, in many of those that are reached by difficult dissection, and are subject to dangerous hæmorrhage, as well as an unsightly looking scar, this is undoubtedly to be preferred to any other surgical proceeding. The time required in a cure is more than balanced by the entire preservation of the skin and the absence of danger from operative work.

2. As to the quantity and quality of the current to be employed, as many as six cells of a zinc-carbon battery may be sufficient in small growths, while twelve cells of the same is perhaps the maximum to which it should be carried if the current from the positive pole alone should be employed.

3. Various forms of needles may be employed, but the ordinary steel needle gives equally satisfactory results, as the eschar produced in the skin at the point of entrance is not sufficient to amount to anything, and the needles can thus be changed at each sitting. Only one should be inserted into the tumor, while the negative pole should be attached to a sponge electrode moistened with a salt solution, and placed upon some indifferent point, care being taken to remove it from point to point in order to prevent blistering the skin.

4. Better results are obtained by passing the needle in from a periphery of the growth on a line horizontal with the skin, and in directions radiating from the circumference towards the centre. Several of these punctures should be made at each operation. The length of the entire sitting should not extend to more than twenty minutes or half an hour, while intervals of two to three weeks, or longer, should be left between operations to know whether there may not be a progressive shrinking away of the tumor.

5. Several elements entered into attaining the result in the case reported, of which the coagulum of the blood was one, and perhaps the least. The two remaining elements were the subsequent contractions of the small eschar produced in radiating lines from the tumor, and the effect of the current upon the vasomotor nerve supply. He felt sure that a thorough trial of this method as to the settling of the various points considered, would result in its adoption in the treatment of perhaps a large majority of these cases where we have a large elevated blood tumor with which to deal. Perhaps pricking the surface with the needle attached to a positive pole of the battery, might result in a series of small scars, which would result in removing the ugly port wine marks so common in this trouble.

Operation for Complete Perineal Laceration.

Dr. Joseph Price, of Philadelphia, said that there are many men who, essaying to be authorities on surgical diseases of the major order, have no conception whatever of injuries of the perineum and cervix so far as their intelligent repair is concerned. Indeed, there are many who labor under the delusion that they have never ruptured a perineum. Perineal lacerations, unless extending through the skin to or through the sphincter, may escape detection unless by thorough digital examination. All these tears should be approached as distinct surgical lesions to be repaired in the line of their anatomic destruction, and not as cosmetic operations. Heaping up of tissue outside the lines of resistance and tension, or mere thickening of mucous membrane and skin, do not make a true perineum, neither does a set of outside sutures, however much they may draw the parts together, afford any anatomic counterpart of a perineum. From this basis all the so-called outside flap splitting operations for perineal tears are only puckering operations, bringing parts within the sutures that have never been severed, and in many cases taking

them out of their proper relations. Big sutures, heavy ligatures, clumsy instruments have no more place here than in other surgery. The ordinary short, strong sewing needle fills the bill exactly in most cases, though the Emmet strayfine short needle for general use is preferable. Silkworm gut or silver wire is the preferable suture. The modified Emmet operation is the foundation for all successful operations on the lacerated perineum, either with or without sphincter tear. Dr. Price, in closing, said the tears of perinea are often unavoidable, but their restoration is always possible, and their neglect is criminal.

Dr. Joseph Taber Johnson, of Washington, D. C., reported a case of

Hydro-Pyonephrosis—Successful Removal of a Forty-Pound Tumor of the Kidney.

The patient was 63 years of age, and had inherited and possessed until five years ago a remarkably good constitution. At this time a lump appeared in his right side in the region of the liver, and was supposed up to the date of the operation to be caused by enlargement and abscess of that organ. At no time did he suffer pain, and only a few weeks with fever. There were several points of interest in this case—viz.: Failure of repeated examinations of the urine to detect the slightest evidence of disease of the kidney. The only explanation the writer suggests is that the disease at the time of analysis and subsequently had so destroyed the function of the kidney as to prevent the escape of any urine at all, and that the specimens examined came from the other organ, which, fortunately, was healthy. Failure of such large quantities of foul smelling pus to produce more sepsis. Absence all through the history of pain or fever. The median line incision, the separate ligation of the renal vessels, and the ligation and dropping of the ureter. The colon had to be carefully separated from the anterior surface of the tumor.

Dr. W. L. Robinson, of Danville, Va., reported

Two Gunshot Wounds of the Abdomen, Lacerating the Liver and Bowel.

In neither case were the symptoms commensurate with the injury; neither shock, hæmorrhage, nor pulse portrayed the necessity for operation. Yet, in view of the 92 per cent. mortality of gunshot wounds of the abdomen without operation, he did not hesitate. The first case came so near dying on the table, and his light being imperfect (at 12 o'clock at night) he only found the liver wound, failing to

find the hole in the posterior border of the hepatic flexure of the colon. The patient died in three days.

His second case was operated on promptly, and the injury in the transverse and descending colon was promptly repaired with the Murphy button. The man was on a spree and had had no action from the bowels for three days. He pressed out much fecal matter, but should have taken more time and ruptured the bowel as far as practicable. For two days no unfavorable symptoms presented themselves, but on the night of the second day tympanites and pain began. He suggested to his associates the propriety of reopening the abdomen, but enemata and grain doses of calomel were tried. This, the author considered, was his fatal mistake, for the waiting of ten hours had lost him the chance of a life-saving operation. He re-opened, and with medium trocar emptied the bowels of gas, but exudative lymph was manifested on bowels, and obstruction of button by feces existed. The button held its tissue firmly, and no leakage had occurred. He washed out the cavity, but patient died in ten hours of shock.

Movable Kidney.

Dr. Geo. Ben. Johnston, of Richmond, Va., at the outset emphasized three propositions: 1, movable kidney is extremely common; 2, it is capable of producing very distressing symptoms, and in many instances is a menace to life; 3, it is curable by a simple and safe operation. The author's experience with movable kidney from a surgical standpoint extends back a little more than three years. Prior to the first nephrorrhaphy in May, 1891, those cases he had met with were given little or no thought. Since the date mentioned, he has examined a limited number of persons likely to be the subjects of movable kidney, and has encountered twenty-seven cases. Edebohls fixes the rate at one for every five or six women examined. Linder gives about the same rate. Osler mentions it as a common occurrence in his hospital wards. It occurs more often in women. He had never seen one in a male subject. Age is a factor in its production. In only one instance has he seen it in a woman over forty. Both kidneys may be movable at the same time. The right is the one affected in the majority of the observed cases. This is accounted for by the relation of the kidney to the liver on this side. Two anatomic facts help to explain the preponderance of the right over left kidney displacement: 1, the greater length of the right renal artery; and 2, the firmer attachments of the left

kidney. The author has twice seen movable kidney follow obstruction of the ureter; both of these cases were on the left side. The increased weight of the kidney due to accumulated urine and congestion must have played an important part in the etiology of the dislocation of these two cases. In many cases of movable kidney, there are no symptoms. In others, they are extremely distressing, producing great mental disquietude, as well as intense physical suffering. In some cases, the symptoms are grave. Torsion of the ureter is common, partial occlusion by bending is not uncommon, inducing a distension of the pelvis by dammed up urine. Hydronephrosis may follow. Calculus is thus invited by reason of poor drainage. Apart from tumors of the kidney itself, the condition most likely to be mistaken for movable kidney is distended gall bladder. Nephrorrhaphy is indicated only in such cases as manifest distressing or dangerous symptoms. When gastro-intestinal disturbances impair the general health, nervous symptoms severe, the dragging abdominal pains constant, disease of other organs simulated, hydronephrosis threatened, one or more attacks of torsion have occurred, the operation is imperative. The author closed his paper with a report of seventeen cases.

Dr. Richard Douglas, of Nashville, followed with a paper entitled

Acute Peritonitis.

The surgeon must accept the classification of Pawloski of two forms of peritonitis: 1, that produced by chemic agents with which we are not concerned; 2, that produced by infection. The latter is more tangible. With Mordecai Price, the author agrees that every case of general peritonitis has a demonstrable cause, and that cause is septic in character. It is indisputable that the type and virulence of the inflammation are largely dependent upon the origin; hence in our bedside work we may consider the subject under the etiologic classification:

Infection from without.	Immediate.	{ This is the direct infection of the peritoneal membrane through penetrating wounds of the abdomen, either accidental or surgical.
	Mediate.	{ This form embraces all cases of contamination of the peritoneum occurring from extension of adjacent infected areas, as leakage from mural abscesses, or puerperal infection.

Infection from within.	Immediate.	{ Visceral perforation or rupture and direct inoculation of the peritoneal membrane with escaping contents, as in perforating typhoid or gastric ulcer, appendicitis, or rupture of gut or bladder.
	Mediate.	{ Infection by emigration of micro-organisms through visceral wall of impaired resistance as in incarcerated hernia, intestinal obstruction, ruptured ovarian cyst.

The author then reported a few illustrated cases. One case was reported of general purulent peritonitis. The patient recovered, and the author considers that it was due entirely to free incision, thorough irrigation and ample drainage.

Election of Officers, etc., for the ensuing term resulted as follows:

President—Dr. L. McLane Tiffany, of Baltimore, but more recently elected to Professorship of Surgery in Tulane University of New Orleans.

Vice-Presidents—Drs. E. S. Lewis, of New Orleans, and Manning Simons, of Charleston, S. C.

Secretary—Dr. W. E. B. Davis, of Birmingham, Ala.

Treasurer—Dr. Hardin P. Cochrane, of Franklin, Ky.

Council—Drs. L. S. McMurtry, of Louisville; Hunter McGuire, of Richmond; Wm. D. Haggard, of Nashville; and Bedford Brown, of Alexandria, Va.

Washington, D. C., was selected as the place for holding the *Eighth Annual Session*, beginning on the morning of the Second Tuesday of November, 1895.

The Medical News' Visiting List for 1895

Is issued, as usual, in four styles by the Publishers, Messrs. Lea Brothers & Co., Philadelphia: *Weekly*, dated for 30 patients; *Monthly*, undated for 120 a month; *Perpetua*, undated for 30 patients weekly; and the same for 60 patients, but without the 32 pages of text which are in the first three styles. Each is in flexible leather, with pocket and pencil, \$1.25; thumb letter index, 25 cents extra.

*Analyses, Selections, etc.***Antitoxin in the Treatment of Tetanus.**

Dr. Von Hacker has successfully treated two cases. The first had received chloral and morphine without success. The antitoxin was begun on the fourth day, and cure resulted in eighteen days. The second case received treatment six weeks after the injury, and it was continued for sixteen days. The prognosis in the first case was gloomy, and in the second hopeless. The cost of the treatment is almost beyond the reach of the ordinary prescriber, as the cost of the drug alone, for the two cases cited, was ninety dollars.—*Medical Press and Circular*, 1894, No. 2879, p. 31.

Drs. G. Tizzoni and G. Cattani report a successful case, the treatment being commenced twenty-four days after the injury. They give full instructions for its administration. The anti-tetanic serum is prepared in a dry state and in an absolutely aseptic mode, and it will keep a long time without change if preserved from damp. It is to be opened only at the moment of preparing the injection. As a solvent, distilled water is to be used, boiled for several minutes and then cooled, in the proportion of one part by weight of desiccated serum to ten parts of water. A hypodermatic syringe of from one to two drachms capacity is employed. The instruments must be sterilized by heat, but not by chemicals, and allowed to cool before using. The quantity to be used varies according to the gravity of the case and the time at which the treatment is commenced. If the case is not of exceptional gravity, for the first injection, one-half of the contents of the glass tube [capacity not stated] is necessary for the first injection. The remainder is divided into four doses, to be used during the following four days, the proper intervals to be determined according to the effect produced upon the course of the tetanic phenomena. If the case is one of great gravity, it may be necessary to use the entire contents of the tube for the first injection.—*Medical Press and Circular*, 1894, No. 2884, p. 155.

Dr. W. Hübener, from laboratory experiments, concludes that the serum of Tizzoni is not ten times stronger, but more likely three or four times weaker, than that of Behring. The tetanus antitoxin as furnished by Merck does not meet, upon animals the subject of experiment, the expected efficiency. It is not likely to cure severe cases of tetanus in man or those that come late under treatment.—*Deut. Med. Woch.*, 1894, No. 33, S. 656.—*Amer. Jour. Med. Science*, December, 1894.

Book Notices.

Report on Typhoid Fever in the District of Columbia. Submitted by the Medical Society of the District of Columbia to the Committee on the District of Columbia of the U. S. House of Representatives, June 14, 1894. *Committee:* S. C. Busey, W. W. Johnston, G. L. Magruder, C. H. Kleinschmidt, G. Wythe Cook, S. S. Adams, D. W. Prentiss. Washington: Government Printing Office. 1894.

This *Report* contains 18 octavo pages of text and five maps of the City of Washington, showing respectively the location of residences in which deaths occurred from typhoid fever and malarial diseases, 1888-1892; the location of public pumps in Washington and Georgetown; location of residences in which deaths from diarrhœal diseases occurred; the location of the numerous box privies; and the old water courses. The *Report* is signed by Drs. G. L. Magruder, W. W. Johnston, and C. M. Hammett, and proves conclusively that "there is a coincidence(?) between a soil polluted with the leakage of the excreta from typhoid fever patients, the drinking of infected well water, and an extensive distribution of typhoid fever." The five maps in themselves read the lesson. This Committee did not fully enough investigate the questions referring to dissemination of typhoid fever by the milk supply to warrant conclusions. There are 65 distinct places in the District where cows are kept, and from which milk is supplied. "It would be well to make this a separate matter of study."

Local Anæsthetics and Cocaine Analgesia. Their Uses and Limitations. By THOMAS H. MANLEY, A. M., M. D., Visiting Surgeon to Harlem Hospital; Vice President of National Association of Railway Surgeons, etc. J. H. Chambers & Co. 1894. 8vo. Pp. 183. Cloth. \$1.50.

This is a useful book, well compiled both from much reading and extensive experience. The author well makes a point in favor of declining to employ pulmonary anæsthetics in all trivial or brief operations. Generally speaking, we have in cocaine an excellent substitute. The author then goes on to mention some of the other agents for local anæsthesia, but comes back to impress upon his readers the general superiority of cocaine, and enumerates many operations in which it is best, and how to use it. It is a useful clinical book.

Principles of Surgery and Surgical Pathology. By DR. HERMANN TILLMANN, Professor in the University of Leipzig. *Translated from the Third German Edition* by JOHN ROGERS, M. D., and BENJAMIN TILTON, M. D., New York. *Edited by* LEWIS A. STIMSON, M. D., Professor of Surgery in University of City of New York, etc. *With 441 Illustrations.* New York: D. Appleton & Co. 1894. Cloth. 8vo. Pp. 800.

According to Dr. Rogers, there was an expressed demand for a work containing the latest information concerning the *principles of surgery and surgical pathology*. After a careful review of the field, Dr. Tillmann's work was selected. Hence the present translation and publication. It is excellent for student, practitioner or teacher. It contains the most approved of "general rules governing operations and the application of dressings." The section on surgical pathology and therapy is up to date, and is presented in a clear, concise form, with numerous illustrations to help the thorough understanding of the text. While no attempt is made, of course, to present this work as our own special surgical operations, the examples given to illustrate the methods of incision, excision, fracture repair, etc., are generally well approved operations, so that the student of this book necessarily picks up a good deal of special information. The work is nicely issued, and contains as few typographical errors as one would expect to find in a work of so great a scope. We notice that the name of the discoverer of anæsthesia by ether is printed "W. C." instead of *Crawford W. Long*, of Athens, Ga. A good index concludes this good book.

Compend of the Practice of Medicine. By DANIEL E. HUGHES, M. D., Chief Resident Physician Philadelphia Hospital, etc, *Fifth Physician's Edition. Thoroughly Revised and Enlarged. Including a Very Complete Section on Skin Diseases and a New Section on Mental Diseases.* Philadelphia: P. Blakiston, Son & Co. 1895. Flexible Leather. Small 8vo. Pp. 568. \$2.50. (For sale by Hunter & Co., Richmond).

In our October, 1894, number we expressed our cordial endorsement of this work as a compend. The only difference between the edition then noticed and the book now before us is in the dates of issue. So that what we said in our October number about the edition of 1894 applies to that now before us of 1895.

Home Treatment for Catarrh and Colds. *Adapted for Use in the Household, and for Vocalists, Clergymen, Lawyers, Actors, Lecturers, etc.* By LEONARD A. DESSAR, M. D., Visiting Laryngologist to St. Mark's Hospital, and to Mt. Sinai Hospital Dispensary, etc. *Illustrated.* New York: Home Series Publishing Co. 1894. Cloth. 12mo. Pp. 118.

We do not know when we have been so pleased with a book that has been published for the intelligent lay reader. It is wanting in the clap-trap, catch-penny sort of statements that are often included in "handy guides for the prevention, cure and treatment" of various diseases with which the people generally have a smattering of acquaintance. It contains a sensible, plain statement of symptoms and treatment of such catarrhal troubles, colds in the head, sore throat, hoarseness, etc., as people generally recognize and attempt to treat themselves anyhow; and it points out those limits beyond which the patient should not dare to go without the advice of the physician. To the practitioner, there are found in the book many points of interest—many "wrinkles," as some are pleased to call them—which would be a great help to the physician to know. Every page is well written, and the illustrations of articles and methods greatly help the understanding of the text.

Teratologia

Is a quarterly journal of contributions to antenatal pathology, with reviews of current literature of the subject, edited by J. W. Ballantyne, M. D., F. R. C. R. E., F. R. S. E., 24 Melville street, Edinburgh, Scotland, who will be glad to receive books, dissertations and learning on Teratology or Congenital Diseases. Price five shillings. Every one interested in embryological studies can contribute something to the development of this journal, which must have altogether a scientific rather than a popular interest. We note that the case reported by Dr. I. H. White in the February number of this journal of "Paralysis of Arm and Convulsions in a New-born," is quoted in the double October and December numbers of *Teratologia*.

Editorial.

List of Exchanges, etc., Issued by American Medical Publishers' Association.

The Secretary, Mr. Chas. Wood Fassett, the able business manager of that excellent journal, the *Medical Herald*, of St. Joseph, Mo., has issued a "List of Medical, Dental and Pharmacal Publications in the United States and Canada" on gummed sheets, which he keeps revised to date. Price \$1.25 per dozen sheets to all parties who are not members of the Association. Nothing could better illustrate the value of such an association of managers of medical publications than the issue of sheets of information of different kinds that are frequently compiled and sent out to members. Annual membership fee is only five dollars. We venture the assertion that there is not a journal which is a member that does not recognize a benefit of twice as much as this fee. Applications for membership should be made on forms that will be furnished on request by the Secretary. The next meeting of the Association is to be in Baltimore, Monday, June 3d, 1895, fuller announcement of which will be made. The bulletin just issued, giving all the new advertisers in the field, together with the advertising manager of each concern, is also a valuable publication.

Banquet to the Students of the University College of Medicine, Richmond, Va.

To inaugurate the Christmas holidays, the Faculty gave a banquet to the two hundred students in Sanger Halle, in this city, on the night of December 21st. While impromptu toasts were well responded to by numbers of the Faculty, the feature of the occasion was the excellent manner in which the greater number of toasts were responded to by the students. All lectures were resumed, with full classes, on January 2d, the students having returned with full appreciation of the resting spell, in which many of them reviewed their studies in preparation for the ordeal of the final examinations in their respective classes.

Medicine Must be Recognized .

In the Presidential Cabinet, and also in the official family of every governor and mayor of large municipalities. So says *Cincinnati Lancet-Clinic* January 5, 1895.

The Richmond Academy of Medicine and Surgery,

At its last meeting, in December, 1894, elected Dr. William S. Gordon, President, and Dr. Mark W. Peyser Secretary. Its meetings are held every second and fourth Tuesday nights of each month, in the Young Men's Christian Association building, corner of Main and Sixth streets. Recognized members of the regular profession visiting the city are always welcome. The annual supper was held in December, and was well attended, and the social features were much enjoyed. Under the guidance of the newly-elected officers, we predict an active, useful year.

Diphtheria Antitoxin

Is proving a success, both as to the prevention and in the early treatment of diphtheria. The authorities of the New York Board of Health have arranged for its cultivation in sufficient quantity for the citizens of that State. Messrs. Parke, Davis & Co., of Detroit, under able physicians, etc., are cultivating it, and will soon be ready to supply orders for it.

The Famous Virginia Seven Springs Iron-Alum Mass, etc.,

Has passed into new hands, and the new company, with Mr. H. R. Boswell, manager, etc., is making arrangements to amply supply the demand for this remarkable "gift of nature," known and appreciated by the profession generally as a most valuable alterative and tonic.

Phthisis Contagious.

The Board of Education of Toronto has decided to forbid children suffering from phthisis to attend the public schools, as it has been determined in that city that phthisis is a contagious disease.

Small-Pox in Some of the Counties East of Richmond, Va.,

Should be a warning to doctors elsewhere to prevent its development in their sections by prompt vaccination.

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Original Communications.

ART. I.—Some Medico-Legal Features of the Schneider Case.*

By IRVING C. ROSSE, M. D., of Washington, D. C.

With the softening influence of time, which modifies all things, our minds are prone to assume the blank state so necessary for calmness of thought and dispassionate consideration that should be brought to bear on all questions of forensic medicine. It is in this frame of mind, I trust, that we now approach the consideration of a case that was attended by much public excitement.

On January 28, 1893, I visited the District Jail, in company with Dr. Godding, of Washington, to examine into the mental condition of a young man under sentence of death for the murder of his wife.

Certain features of this celebrated case, but more especially the lunacy inquiry, came within the unfortunate category of those prejudged by public sentiment, regardless of calm consideration of the attendant facts. But the question of guilt or innocence being no concern of mine,

* Read at a meeting of the Medical Society of the District of Columbia, October 10, 1894.

judgment may be suspended on this point. Whatever a culprit may be from the special pleader's point of view, to the physician a patient is only a patient, whether he be saint or sinner, and the juridical aspect of such cases in no way concerns us, unless the medical facts relate to the law or tend to promote the ends of justice.

As far as I could ascertain the prisoner's antecedents, he had led an irregular, eccentric life, was addicted to the abuse of alcohol and tobacco, and was unhappy in his domestic relations. A near blood relative had died of spinal disease; another was hemiplegic; another had nystagmus, and the father was a senile dement, being insane before and at the time his son was begotten. The prisoner had a poor common school education, and his family were Lutherans.

From the jail attendants and the physician it was learned that the prisoner had undergone a marked change in conduct; from being neat in his personal appearance, he had become slovenly and filthy; his manner of talking, from being quick and sprightly, had become slow and hesitating; when addressed he would be apparently forgetful and have difficulty in concentrating his mind upon matters as to which he was interrogated, and, before answering, would repeat part of the question in a stupid way after the manner of echolalia. He refused food for fear of poisoning; suffered from prolonged insomnia; talked incoherently, especially about a wonderful electric machine that he had invented; frequently yelled in the night that persons were entering his cell, throwing acid upon him, and making attempts on his life.

I found, on entering the cell, a man of unkempt appearance, with pallid complexion, long hair and beard, and a morbidly suspicious manner. First inspection showed slender trunk and limbs and thin cigarette-stained fingers. He constantly and aimlessly picked and scratched his hands and wrists after the manner of many patients one sees in asylums. Palpation of the head gave no result, nor was there any marked peculiarity in its shape, beyond a slight plagio-prosopia of the right side. There was a slight ptosis

of the right eyelid, irregularity of the lower teeth, a narrow palate arch, and an extensive ranula. The superficial veins appeared healthy. There was a brown scar on the left of the glans penis. A quantity of urine passed in our presence showed a large excess of phosphates on analysis.

Various tests for the motility, sensibility, reflexes, and special senses were applied. Exaggeration of the patellar tendon reflexes was present, and the prisoner either could not or would not distinguish colors. The circulation and respiration were weak. The pulse was ninety and irregular; the temperature under the tongue, 99.5.

Owing to the prisoner's stuporous condition and his morbid suspicion, it was a more difficult task to ascertain the limit of his ideas, imagination, will, and moral and affective sentiments.

He complained of heat and pain in the back of his head and arms; of excessive itching of the skin; of inability to sleep because of the faces of dim green color on the walls; of whisperings and voices, and of the annoyance caused by persons throwing acid on him and having designs on his life. He also said that attempts were made to poison his food; he talked of the attempt to steal an electric invention, and accused his brother and mother of being inimical to him. When asked if there was anything he wanted, he asked for medicine to make him sleep. Numerous questions, put with a view to leading up to the prisoner's mental weak point, failed to elicit much beyond the fact that his memory was apparently weakened, that he was suffering from phrenasthenia, and that he lacked the knowledge and shrewdness to dissimulate the systematized and fixed delusions which were ground out with hand-organ regularity at each visit. At one of these visits, the prisoner showed not the slightest sign of emotion on the arrival of his mother, nor was there on several occasions any change in the beat or frequency of his pulse when suddenly asked about killing two people, one of whom was his wife, and that he was soon to be executed therefor.

With Dr. Godding and Dr. Brush, I did not think it possible for an ordinary ignorant man, even with special training in insanity, to feign successfully the symptoms observed. Malingering tests failed to lead the prisoner into any gross error, even after prolonged and varied conditions of examination.

In view of the foregoing facts, and my wide experience

with frauds and malingerers among thousands of soldiers, sailors, pensioners and others, I felt satisfied that the prisoner bore the characters, physical and psycho-physical, of degeneration, of aberration, of constitutional abnormality, sufficient for recognition, and I signified my willingness to go into court and testify as to the existence of paranoia. Besides, the symptoms observed were similar to the clinical picture of that affection as given by more than fifty authors whom I had previously consulted.

The inquiry accordingly came off before three judges, and on this occasion I had the honor to differ with my friend, Dr. Dana, of New York, who was by far the most intelligent, conscientious and well-informed of the experts employed by the adverse party.

The inquisitorial procedure conducted by the three judges was a long one, some twenty-nine witnesses being produced on either side, and the testimony was voluminous. To review it here at length would manifestly be out of place, but the legal procedure adopted, and the manner of getting medical evidence are open to damaging criticism, and do not strike the dispassionate observer as "being the wisest method of obtaining light upon the alleged insanity of the defendant."

At the outset of the inquiry, legal opposition, suggestive of unfairness, was shown in the motion to exclude from the court the expert medical witnesses for the defense. After deliberation on the part of the judges, who were presumably without predilection and uninfluenced by the sentiment of the hour, this motion did not prevail. While the experts for the prosecution were given every opportunity and did cross-examine the experts for the defense, no such privilege of impeaching the skill and testing competency was allowed the defense, who submitted, in writing, eighty-four proposed questions, which it was thought related to the facts in issue and tended to test the accuracy, veracity and credibility of a document alleged to give an enlightened report of the defendant's condition. Touching these questions, Chief Justice Bingham remarked, among his reasons for not per-

mitting them to be asked, "It would seem to us that each and every one of them is in the nature of a critical, technical and rigorous cross-examination."

Not to comment at length upon the evidence adduced by the various witnesses, it was satisfactorily shown to many persons, among them members of the jury who tried the case in advance of the lunacy proceedings, that the weight of testimony bearing upon the prisoner's insanity was greatly on the side of the witnesses produced to prove the theory of his counsel, namely, "that the shock of the sentence of death, coming after the prolonged strain of imprisonment for four months and the strain of the trial, acting upon a mind predisposed to disease, operated to dethrone his reason and render him insane, so that he is now unable to appreciate his present situation as a person condemned to death." Even the witnesses for the prosecution clearly established the existence of heredity, which is one of the only two factors that enter into the causation of all cases of insanity. In fact, the neurotic antecedents were so well shown as to remove any doubts as to the defendant's mental condition had there been such; and on being recalled I testified substantially to this at the conclusion of the hearing of the inexpert testimony. So well, indeed, do the best modern authorities recognize the complementary relations to each other of heredity and stress in the causation of insanity, that it is now spoken of in mathematical terms as a function of two variables; and one may as well deny the fact that twice two make four as to doubt the two fold causes of insanity. Notwithstanding this, and the further fact that a considerable part of the testimony for the prisoner was addressed to the mental condition of his father and to the erratic conduct and abnormal behavior in early youth of the son, Judge Hagner, in delivering the opinion of the court, pointedly disregarded these facts and characterized "these statements as comparatively unimportant."

In the course of the inquiry many questions, the purport of which seemed irrelevant, were put by the prosecution in regard to the use of tobacco, and a sphygmographic tracing

of the prisoner's pulse was introduced. The question of consumption of tobacco may be dismissed as immaterial and insignificant, since it was proved that the prisoner never used more than a quarter of a pound a week, and when the supply was entirely cut off, he improved in appearance and in the readiness with which he replied to questions. The inference to be drawn from such improvement is manifestly against the theory of feigning. A simulator would attempt to retain as far as possible the state which he had manifested during the medical examination and during his presence in court. While the nervous system of many persons is seriously affected by tobacco, many old and inveterate users have never been affected. A letter in my possession from a gentleman of eighty-four years, said to be one of the most inveterate users of the weed to be found in the whole State of Virginia, shows an absence of tremor and a clearness that would do credit to a school boy. While the examination was in progress I produced a sphygmographic tracing, and on asking one of the physicians employed to assist the court whether the tracing in question was that of a man or some lower order of animal, it elicited the reply, "I don't know." It was further asked, "Assuming the tracing to be that of a man's pulse, does he or does he not smoke or use tobacco?" To this the same reply was made, when I stated that the tracing was one of my own pulse, and that I did not use tobacco. In defense it was testified that in the diagnosis of insanity the sphygmograph is of no absolute significance; that it is a mere scientific toy, and that any results obtainable from it may be ranked among the probabilities of science.

Equally worthless was the testimony regarding the drawings, tracings and the civil service examination papers introduced to show the work done, and the employment of the defendant. As documentary evidence, they showed a lower order of merit than is often found among idiots and insane, many of whom do creditable work as artists.

The inference to be drawn from civil service examination is, to say the least, extremely problematical. An in-

stance has come to my knowledge in Washington of a contest in which among the applicants examined were a recent graduate of the United States Naval Academy and a person just from a lunatic asylum. On awarding the results of the examination the lunatic was recommended for the prize.

As is usual in such cases, the presentation of the medical evidence proved unsatisfactory, more from the manner in which it was obtained than from the inherent difficulty of the case. Each counsel striving to make the testimony aid his own side, thereby forcibly impressed upon it a blurred and distorted character, and each took just what suited his purpose. Concerning the report of the "three physicians of known eminence" employed to assist the court in the examination, a prominent member of the Washington bar, who was a disinterested spectator, on hearing it read, remarked, "That document is more like a special pleader's brief than the expression of expert opinion." Since the makers of the report were presumably honest, though mistaken, I will not say that I share this sentiment as to its unilateral character, although some points of the report call for comment and criticism.

Among many irrelevant and immaterial statements, which could not be construed as evidence of either sound or unsound mind, independently of other matters connected with this case, the medical assessors delegated by the judiciary described quite truthfully the defendant's condition when they say, that "During our examinations he manifested a stuporous apathetic condition and a vacuity of mind such as occurs in certain long-standing insanities under other conditions." He "avoided the eye of the observer;" was "apparently oblivious to the presence of any one;" * * * "his general attitude, one of suspicion;" * * * "his irrelevant and illogical [inconsistent] manner;" his "stupid behavior and far-away look." We are also told that they were not able to surprise the defendant in any way out of the constant expression of his delusive ideas; for the report indicates that on recovering from the effects of ether, he "at once took up his complaint of alleged persecution and

delusions;" "said he was being starved and called upon his mother to bring him food." The probative force of such facts go to show that the defendant could not keep up his feigning in such circumstances; but it requires greater acumen, on the part of any medical man who has ever seen a patient anæsthetized, to see the significance or relevancy of the statements that "when he was given nitrous oxide gas and ether he exerted an extreme amount of muscular vigor;" that he "took ether, evincing much cunning in holding his breath and suddenly turning his head."

Further occasion may be taken to mention in terms of strongest condemnation this method of obtaining knowledge. The best authorities are against using alcohol, ether or any anæsthetic or intoxicating drug for the purpose of obtaining an avowal from a supposed simulator. The expert has never the right, in order to insure his diagnosis, to impose suffering on any individual intrusted to his care or to put him in danger. By doing so, he assumes the rôle of judge and inquisitor instead of confining himself to his proper function. The well-equipped expert has enough means at his disposal to obtain exact knowledge without recourse to barbaric and dangerous proceedings which morality and contemporary science unite in condemning with the same severity as the conduct of a judge who would re-introduce the ancient procedures of the rack and thumb-screw.

If the use of anæsthesia was of any probative value in this case, the proof furnished thereby was rather in favor of the defendant. A short time after the first test of this kind, I found him smelling strongly of ether; he had an excoriation on the end of his nose, and he showed a degree of exhilaration and rationality that I had not seen before. Like the improvement noted after withdrawing the prisoner's supply of tobacco, it is difficult to reconcile this fact with the theory of feigning.

We are further told in the report that the "fixed systematized delusions, which have been prominent here, are evolved out of preceding stages of insanity, requiring many months and years for development;" and further, "we do

not believe that from the manifestations testified to, a diagnosis of that form of insanity known as paranoia of Krafft-Ebing and his followers is possible."

This statement utterly ignores all the prisoner's neurotic antecedents, the erratic conduct, abnormal behavior, and even insane conduct, which were testified to by numerous witnesses, among them several for the prosecution. To use the language of the court, "With one accord all these witnesses agree that from his earliest youth, preëminent over all his other vices was his addiction to falsehood; that his whole talk was a gasconade of impossible exploits and ridiculous lies."

Dr. Beatty testifies to the belief that the prisoner was crazy when he first saw him in jail, while Dr. John E. Walsh, who had known him a long time, testified as to his general reputation for "being off and peculiar as a youth," and expressed belief in his mental unsoundness.

The family clergyman spoke of him as a person under "a long-standing mental cloud;" another witness as a "dime-novel hero;" another, of his impulsive and reckless actions and want of reflection; another, of his being different from other young men, an untutored child of nature, and of his moral depravity. One witness called him insane, a fool and an idiot and an arrant coward; another spoke of "grandeur and falseness as the general character of his talk;" while the jail matron testified to his extravagant statements as to horses he owned and to his electric invention and excited manner.

Witness Paine says that the prisoner talked of his inventions and machine the first day in jail, and frequently sat up all night. Witness Woodward, that the delusion as to the patent was noticed by him "along in the fall and last three months," and that a gradual change has come over the prisoner, who was torpid and sleepless. Russ, a prison attendant, said that he noticed oddity in the prisoner before his wife died, also a change after conviction, and the persistency of the alleged insane manifestations. Peacock, that in July he talked quick; that lately he talked slow, etc.—all of which

manifestations show the forerunners of the prisoner's mental condition, and make it quite possible to diagnosticate paranoia. Aside from the gradual development of the manifestations testified to, the medical advisers of the court totally ignored or were ignorant of the distinction of the best authorities between acute primary and chronic secondary paranoia, and they inadvertently spoke of this form of insanity as that of "Krafft-Ebing and his followers," when in reality some twenty-five authors before his time have written of this form of mental degeneration as far back as Vogel in 1764. Moreover, Westphal described the *acute* form as characterized by the sudden explosion of hallucinations, especially of hearing. In this case, illusive transformations of hearing were one of the features; but as we cannot, except in an ejective way, get into another person's brain to see his mindstuff and hear what he does, it is scarcely possible to testify in a court with any degree of accuracy as to the existence or non-existence of such hallucinations. However, it is well known to persons skilled in penal matters that among convicts becoming insane, hallucinations of hearing and delirium of persecution are common forms of insane manifestation.

Another point in this case is that the emotional condition of the patient appears to have been ignored by the experts for the prosecution. It is contrary to all experience that a sane man, fully cognizant of his surroundings and of all that is going on about him, and who is feigning insanity, can control his emotional nature and prevent an increase of pulse under circumstances that would cause increase in any sane person. On this point, the report says: "As to the importance attached to the condition of the pulse and the behavior of the individual when startling evidence is introduced in his presence, or when he was reminded of his position, we would say that we attach very little weight to variations in pulse as a test for the examination of feigned insanity, and in making this statement we believe that we are in accord with all modern authorities."

In the first place, this statement is inconsistent with the

introduction into the court of a sphymographic tracing to show the condition of the prisoner's pulse; secondly, the pulsatile phenomena of different regions of the body have been known to furnish infallible indications since the time of Galen; and in the earlier days of American medicine, a resort to the state of the circulation was regarded so much of a crucial experiment in determining the proposition whether a man be or be not laboring under mental alienation, that of two men condemned to death in 1794, one of them, alleged to be feigning, was declared insane after medical inspection—the pulse-test placing insanity beyond the possibility of a doubt on comparing the pulse of the insane victim with that of his sane comrade. On the strength of this representation by the medical commission, the prisoner was respited, and subsequently pardoned by General Washington.*

As to the third assertion of the court's advisers, that of their being in accord with all modern authorities, such is not the fact. On the contrary, after examining several hundred of the more modern authorities bearing on this subject, I find that scarcely any fact of modern clinical research is better established than the demonstrable changes in the pulse following transient changes in the central nervous system, such as that contributed by the play of mental or emotional activity, and that this motility of the state of muscular contraction of the arteries is so constant in persons of vigorous health that its absence is considered a sign of diagnostic value.†

The number of physical and psychical influences that can be clinically and experimentally shown to cause variation of the pulse could be mentioned at great length. Who has not experienced increased pulsation of his heart on meeting some familiar friend? Every practitioner knows that his presence hastens the pulse of his patients, especially that of women, children, and nervous persons. Brain work, calculation, music, and sensorial excitations, generally ac-

* *Am. Jour. Med. Sc.*, 1844, VII.

† *Arch. fur Anat. und Phys.*, 1883. *Superabund*, p. 17-19.

celerate the pulse, while different emotions give to it a vivacity sometimes very remarkable. After an access of anger, the pulse has been noticed to go up to 108. According to some authorities, pain makes it go up to 86 and 100 pulsations in a minute. A series of observations on medical students has obtained 120, 124, 128, 130, 134 beats a few minutes before examination. The influence of the generative function over the circulation, recognized by Galen, when he discovered by the pulse the malady of Justa, wife of the Consul Boëce, and who had a passion for Pylades, is just as potent to-day as it was a thousand years ago.

That the pulse varies in mental alienation, according to the kind of insanity, is therefore a well-established fact, and how three intelligent men could certify to a prisoner's being cognizant of all that was going on, and listening to testimony the most damaging to his case, without a momentary effect on his pulse, is beyond all comprehension.

Other minor and irrelevant points touched upon by these "three physicians of known eminence," might be discussed at great length; but it suffices to notice that they report "no evidences of any external structural alteration," and "nothing whatever abnormal was noted physically." Although they mention having found "the head small, and an elevated palatal arch, such as is frequently found in ordinary neurotic individuals and certain habitual criminals, and the tongue pointed to the left side," yet we are not shown how such facts bear upon the correlation between anatomical structure and crime. In making this "exhaustive" examination bearing upon the organicity of crime—its anatomical nature and degenerative source—why did they not find, or, if they did, why fail to report, a metopic cranium, facial asymmetry, ptosis of the right eye-lid, an extensive ranula, irregularity of the inferior dental arch, dullness over the base of the right lung, and a scar on the penis?

In their general conclusions, the report says: "There seem to have been no serious physical changes whatever in his condition;" "an absence of physical deterioration;" "no

corresponding appearance of physical deterioration of any kind."

Let us see how the post-mortem corroborates the pathological notions of the "three physicians of known eminence."

Shortly after the execution, *the necropsy* was conducted in Baltimore by a well-known Washington pathologist and myself. We found the usual cadaveric rigidity in a poorly developed body somewhat emaciated. There was no evidence of seminal emission that sometimes occurs after hanging. But little hæmorrhage followed the incision. The *brain*, on removal, was dryer than usual; the pia was sticky, and there were minute patches of opacity on the left side. The veins were moderately full. The dura was not abnormally adherent. The right side showed the same stickiness with the minute patches. The left vertebral artery was double the size of the right, and both posterior communicating arteries were larger than usual. There was no sign of disease of the vessels, although the base of the brain was slightly soft. The right motor oculi nerve was narrower than its fellow. The *spinal substance* was quite soft, probably a post-mortem result. The fluid in the ventricles was slightly tinged with blood, but the ventricles were apparently normal. There was some hardening about the membrane, not adherent to the cortex, with osteophytes in the dura.

The normal quantity of fluid was found in the thoracic cavity. The *lungs*, slightly hypostatic and emphysematous, showed numerous pleuritic scars and adhesions with a tubercular deposit in the upper part of the right; but there was no pulmonary apoplexy such as is common to asphyxia.

In the *pericardium* was an abnormal quantity of fluid. The *cardiac cavities* were moderately filled with blood; the *valves* appeared normal, except the tricuspid, which was increased in size to the extent of readily admitting the tips of of the four fingers. The *left ventricle* was thinner than usual, and the right heart was subnormal.

The *spleen* was soft, with prominent Malpighian bodies and smooth capsule.

The *kidneys* contained more blood than usual. The capsules, not readily removed, were more adherent than normal. The cortex was normal in width and thickness. Urate deposits the size of a large pea were found in the apices of the pyramids.

In the *bladder* was found a half ounce of turbid urine, but the walls showed no evidence of disease. On the left side of the glans penis was a brownish scar.

The *intestines* contained little more than gas. The mesenteric glands were extensively diseased, being enlarged, gray, and softened probably from a deposit of tubercle. The liver was normal.

Microscopic examination of the brain gave but negative results. The same may, however, be said of the brain of many patients who have died of general paresis, while many of the alleged pathological findings of histologists have been equally observed in the brain of a calf.

During the progress of this lunacy inquiry much was heard from various sources declaring the case to be an exceptional one. The public, who, by the way, were excluded from the court, were informed, "This is the first case on record that a man's mental condition has been inquired into because it was claimed that he became insane after the sentence of death had been pronounced upon him"; while Judge Hagner, who delivered the opinion of the court, in speaking of the weight to be given to the three experts who testified on behalf of the prisoner, says, "They all admit the case presented here is exceptional." Both assertions are absolutely contrary to fact, and this is easily proved. It is a matter of record that in 1794 two men were sentenced to be hanged for treason, and one of them, it was thought, feigned insanity; whereupon a commission, consisting of Dr. Shippen, Dr. Griffin, and Dr. Earle, appointed by Gen. Washington to inquire into the man's mental condition, reported him to be insane. The condemned man was respited, and after the popular clamor for his death had subsided, was pardoned. A notable feature of the case was the pulse test, which it was claimed placed the condition beyond the possibility of a doubt on comparing the pulse of the insane victim with that of his sane comrade.

Another case, almost the counterpart of Schneider's, occurred a year previously in France. A man, having killed two people, his condition became such as to call for a medico-legal report on his mental state. The inquiry showed that the prisoner's derangement was in no way connected with

the commission of his crime. He was subject to alterations of memory, which would be lost and recovered some hours afterward. His mind was most of the time in a profound torpor. He had fixed ideas, delirium of poisoning, and refused food. Coupled with these symptoms was the circumstance of neurotic antecedents, which warranted the diagnosis of that form of delusional insanity known as paranoia. Instead of the sentence of death being carried out, the prisoner was sent to an asylum*.

Newspapers are not supposed to be scientifically accurate, and lawyers may be pardoned for distorting medical knowledge with which they are imperfectly acquainted; but when a learned judge from the bench delivers an opinion with the sanctity attaching to a judicial document abounding in *scientific* quotations from the Bible and the classics, and yet misstates a fact in forming his conclusion, what is the proper remedy?

As one of the experts who testified for the prisoner, I regret to say that Judge Hagner was utterly mistaken. I absolutely deny that I have ever admitted that the case herewith presented is "an exceptional one and out of the range of ordinary experience," and I challenge any one to read the typewritten copy of my testimony on the occasion named and find even the slightest intimation of the case being "altogether exceptional."

To conclude this unhappy affair, it may be asked, Was the medical examination of the court's advisers "exhaustive, thorough, and complete," as they claim in their report and supplemental report? Did they fully weigh all the circumstances of the case? Was the method of procedure the best suited to promote an inquiry not influenced by predilection or sentiment of the hour? And was or was not the final result judicial murder? The answer to these questions I leave to the calm and disinterested intelligence of thinking persons, many of whom may see in this case a striking instance of the bungling application of medical knowledge to legal purposes.

* *Rev. Med. de l'Est.*, Oct. '92, 609.

ART. II —Chloroform in Labor.*

By EDWIN RICKETS, M. D., of Cincinnati, Ohio.

In coming into this world, man preceded woman ; then, as in all movements of man, woman soon followed. The first man (as are all since) was selfish, for he had to be impressed with the value and future worth of his to-be-child-bearing woman, by having a rib extracted from him for the initiatory propagation of his kind.

Courage, then as now, failed him; and for this, along with the possible begging that he should not be permitted to suffer during the instrumental delivery of the rib, he was put to sleep, but not until he had promised to ever bear in mind that all future prospective mothers should be relieved of at least the severer pains of child-birth. The promise was broken, and too many of his sons that have been and still are in the ranks of our profession, have followed his footsteps.

A second delivery of a rib for this father of our race, along with a similar delivery in our modern doctors, would bring all to terms; or, at least, the one who so readily promised in the beginning would promise again.

The opponents of chloroform in labor cite us to Holy Writ for evidence in their favor, forgetting divine authority, and that the same declares that the man was put into a deep sleep before the rib was removed. Why the woman that ushers into this world a human being, that we are told is the image of our Maker, should be permitted to suffer untold agonies, in more than the majority of instances, until "Nature" has delivered her successfully or disastrously, without our continued best efforts at relief, is beyond all comprehension.

Even a biliary colic, or one of a green apple kind, causes a man to send for the nearest female physician (and she nobly responds), insisting on the quickest medication for relief, while the good wife that within a few days is to take

* Read before the Walnut Hills Medical Society.

on these pains which none but her similar suffering sister can fully realize, is politely, yet firmly, told by this liege lord to "grin and bear it—let nature have her course;" and he takes mortal offence at the merciful doctor that suggests relief for her by a few well-directed inhalations of chloroform.

We have too many doctors who think that, if they give chloroform, they will lose too much time. Such an one had better raise his obstetrical fees and do less but better work. How often do many physicians, during a case of labor, attend to all possible outside calls, and get in just in time to lay hands upon a rapidly turning delivered head? Then in action, if not in words, he leaves this impression: "I am the deliverer; how fortunate that I arrived in time." Such an obstetrician falls far below the requirements of his calling.

To relieve the pneumonic stitch is honorable; and he would hang around with his little needle-gun, and shoot and shoot until that pain was relieved. The pains of childbirth are none the less honorable because of the relief of these pains; so why does he run away from them?

If he remains and refuses to give relief, of what earthly obstetrical service is he? Any midwife can do as much. Let him do his duty in the way of relief of pain, and then the midwife ceases to be his strongest competitor; when he raises his standard, hers falls to the ground.

It is a fact that is well known, that chloroform is a potent remedy to administer in puerperal convulsions; none hesitate to give it under such circumstances. If this remedy is so beneficial as a curative agent, why is it not a prophylactic one also; or, at least, why will it not modify the severity of labor pains?

Wife, Mother—the dearest two names on earth! Are we, as physicians, sufficiently appreciative of their true worth, and do we honor them as we should in our efforts to relieve them in their common every-day happenings of child birth? I am sure, for the commonness of this very important pro-

cess, that we are prone to overlook the importance of our obstetrical mission—that of the relief of pain, along with all possible successful deliveries.

The immortal James Y. Simpson had the courage to show and prove to the world the beneficial results of chloroform in labor, and of the peculiar condition of women in safely withstanding its inhalations.

In the beginning of my obstetrical work I did not have the courage of my convictions, for the reason that my obstetrical teachings were against the use of chloroform under these conditions. Soon afterwards, I met the late Dr. T. G. Vaughters, of ———, near Portsmouth, Ohio, a rural practitioner of fifty years' standing, who had administered chloroform in labor to every woman who would take it for thirty-five years; you could not find him without a pound of chloroform in his time-honored saddle-bags. He let the patient inhale from the unstopped bottle. He, like many another of his kind, was loath to give the medical world his experience in print—an example that "Many a rose is born to blush unseen, and waste its sweetness on the desert air."

Obstetricians of the largest experience, that have used chloroform within a period of from twenty to forty years, such as Ghent, Barker, and Vaughters, gave it to patients suffering from a previously recognized heart lesion. The author of this paper has administered it in recognized heart lesion of a most serious kind, and never with injury to the patient.

You must allay the fears of the patient, assuring her that it is seldom necessary to resort to surgical anæsthesia during the administration. Satisfy her by answering any questions she may ask, for by so doing you inspire the much-desired confidence. Never forget that coolness must begin, with yourself; then you can inspire confidence in your patient.

Any drop-bottle—the Esmarch being the best I know of—can be used, and never forget that it is a difficult matter to give *little enough*. The chloroform should be warmed, as it gives prompter results and less discomfort; especially is

this true in patients suffering from bronchitis or pulmonary tuberculosis.

A clean handkerchief, folded and placed in the palm of the left hand, on which from five to ten drops of chloroform has been put, is held near the nose and mouth; instruct the patient to begin by breathing naturally; this is a drill for her and acquaints her with the odor of the drug; explain to her the sensations that she is to experience, as this is very important, she understanding that she is to try and respond to any questions that you may ask her, such as, "Are you all right?" "Now do you feel any pain?" Impress upon her the importance of letting you know of the first appearance of the pain, at which time she is to begin successive, quick inhalations. You must be the judge as to when to begin its use.

If the pains at any time during the first stage are severe, there can be no objection to the use of a hypodermic injection of morphia, along with hydrate of chloral per rectum. If this fails, or the obstetrician chooses to rely upon chloroform for the relief of pain during the first and second stages, it is his duty not to withhold it.

After a digital examination to find out the position, have the patient assume the dorsal position, lying on the right side of the bed so that her face will be in full view. Have her draw up the limbs with the feet resting on the bed; set yourself on a chair to her right, facing her with your right shoulder resting against her right drawn up knee; administer the chloroform with the left hand, while the right, during the termination of the second stage, can press the head up against the arch; with the head once delivered, your left hand is to lay aside the handkerchief and come to the assistance of the right in delivering the body and placenta.

As the pain increases in severity, prompter action of the drug is demanded; a little practice will soon teach you how often to renew the chloroform, while the patient will soon learn as to the coming and going of the pains.

Push the drug to the point of relief until the head is de-

livered, during which time, if the pains are continuous, push the remedy until relief is given; with the stretching of the perineum until the head is delivered, the patient can, in more than the majority of instances, reply to any question and yet not be conscious of pain.

We have on record about forty cases where death took place during the administration of chloroform in labor.

Post-partum hæmorrhage is a thing dreaded by friends, patient and physician. I have been so fortunate as never to see this condition following the administration of chloroform according to the simple rules laid down here; nor do I believe that surgical anæsthesia necessarily causes post-partums; tired out uterus, as the cause or result of long-drawn labors, can and do produce this dreaded condition.

Exhaust man's energy, then throw him into the water, and while he may, under favorable conditions, be a good swimmer, yet in this exhausted state he must necessarily drown. Overtax the best horse before the final race, and he is distanced; overstrain the athlete, and his work is far below that to be desired. With a woman in labor, worn out from fatigue and pain, does it not appear reasonable to conclude that she is especially liable to have post-partum hæmorrhage? Such a condition has been responsible for more deaths during and following child-birth than our remedy under consideration.

It is our duty to select a reliable brand of chloroform; never allow self-administration with napkin, mug, or tumbler; the reason for this is that the chloroform vapor, being heavier than air, may anæsthetize the patient before you are aware of it; under such circumstances, the case is not thoroughly in hand. The specific gravity of the purest chloroform is 1.5022; of officinal, 1.485 to 1.480. When it contains a little alcohol, as usually found, the shop article has a specific gravity of about 1.475; when it contains more alcohol, it is less apt to become acid.

Chlorinated pyrogenous oil is a very injurious impurity. This may be detected by adding a few drops of strong sulphuric acid to a test-tube half full of the suspected chloro

form; the amount of impurity can be approximated by the color thus obtained, ranging from a light straw to a reddish brown.

In giving chloroform, watch the face—note different expressions and changes in color of the lips; watch the pupils, the pulse, respiration, and the temperature of the extremities as imparted to you by the sense of touch.

Never administer the drug on a full stomach, as many deaths have been reported from chloroform that I am sure should have attributed to food getting into the air-passages during a vomiting effort. If possible, a saline purgative should have done its work, and if the stomach should be full from a recent meal an emetic should be given, after which the patient is prepared for the lying-in room in bed with her head resting on a moderately low pillow—never high; remove any false teeth and loosen all tight garments.

With the patient delivered of her child, and the after-birth entirely removed in a clean manner, without meddling midwifery—using Crede's method for an hour, showing and demonstrating to the patient how, by personal unilateral pressure, she can keep the "uterine watch," bid her good-day, and you will leave with the consciousness of having done your duty, along with the assurance of any who are present with her, who personally know and appreciate what a blessing she has received at your hands—one who so long as she lives, with or without its repetition, is never to forget the service that you have rendered her. You will feel better as you leave the palatial, or, most frequently, the humble home; you will realize and know that you have honored woman, the world, our profession, and yourself, far more than it could be possible to do, had you made many an outside, between pain, cash call, getting in just in time to cut the recently tied cord, wash your hands, try to make amends for getting in late, possibly collect your unearned fee, say good-day, and then retire and drive rapidly to a similar case to repeat the obstetrical farce, or to the nearest telephone to ask for your orders on the office slate.

ART. III.—“Pre-Columbian Syphilis.”*

By EDWIN L. MORGAN, M. D., of Washington, D. C.

On January 9th, 1893, I read a paper before this Society—“Syphilis: Its Age and Relation to the Antiquity of Man”—a subject of great interest to physicians and anthropologists, and a much disputed theme, both in the present and past ages, as to whether the New or Old World should be accredited with the honor(?) of being the original home of this disease. I considered this subject, to a certain extent, from a historical and scientific standpoint, quoting from many works by eminent scientists, both of Europe and America,¹ each having an international reputation. And in addition to the above references, I selected lines and portions from a work on syphilis² by a distinguished French physician. While there is a slight similarity in my article this evening in some details, when compared with my previous paper,³ I will consider this scourge in a new light, which I hope you will find of interest, as I will present for your consideration both sides of the question, with modifications and original comments *as relates principally to the North American origin of syphilis*.

Dr. Brühl⁴ lays great stress on the translation of certain Aztec traditions, the exact meaning of which, according to his interpretations, he thinks, proves the existence of this curse in America before the arrival of Columbus. He reviews to some extent the European claim of this disease, and quotes from the early historians in regard to the Ameri-

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 12, 1894.

¹ Drs. Joseph Jones, Jas. Nevins Hyde, Albert S. Ashmead, Rudolph Virchow, Oscar Peschell, John D. Hunter, A. De Quatrefages, Prichard, Foster, Donnelly, Profs. Thomas Wilson and Otis Mason, H. Alleyne Nicholson, Drs. Shrady and Gustavus Brühl.

² *Syphilis in Ancient and Prehistoric Times*. Dr. F. Buret. Vol. I. 1891.

³ “*Syphilis: Its Age and Relation to the Antiquity of Man.*” *Va. Med. Monthly*, May, 1893, p. 166.

⁴ “*Pre-Columbian Existence of Syphilis in America.*” Gustavus Brühl. *Cincinnati Lancet-Clinic*, May 29, 1830.

can origin as a positive evidence that the Western Continent is its original home. In regard to traditions of most tribes and nations, they are in many instances, to a certain extent, founded on facts, and even mythology is claimed by some to contain obscure historical truths.

Prof. J. P. MacLean, of Hamilton, Ohio, replies to Dr. Brühl. He considers⁵ that syphilis originated in Europe, and not in America, reviews the earliest history of Mexico, traditions; and, in the interpretation of Aztec words, he disagrees with the doctor as to certain *words meaning syphilis*, and says: "Of all the men best qualified to discuss the pre-Columbian origin of this disease is Bancroft. In his *Native Races* (Vol. II, p. 594), he declines to discuss it, alleging that it was in Europe before the discovery of America, and that there are some indications in the traditional history of the Nahall people that the disease was known in some form to the aborigines before the arrival of the Spaniards." Dr. MacLean makes numerous references⁶ to certain writers to substantiate his claim; also calls attention to the fact that Prof. F. W. Putnam, in reply⁷ to Prof. Joseph Jones, of New Orleans, says that this gentleman does not agree with Dr. Jones in regard to claims made by him, so far as his investigations go, in the explorations of the mounds of Tennessee.

Dr. Brühl,⁸ in reply to Prof. MacLean, enters more into details in regard to the mythology, or traditions, and language of the ancient Mexicans, giving examples and derivations of their words, and also some Indian tribes of "The United States of America," amongst them the Kalispels, or *Calispels*, of the northeastern part of "The State of Washington." I lived amongst the Calispels, or Indians of the Salish tongue, seven years. He claimed they had an ancient word for syphilis, as was the case amongst other

⁵ *Amer. Med. Journ.*, St. Louis, Mo., Vol. XII, No. 8, August, 1884.

⁶ Ziemssen's *Cyclopædia*, pp. 5, 7-19, Vol. III.

⁷ *Peabody Museum Reports*, Vol. II, p. 305.

⁸ "Pre-Columbian Syphilis in the Western Hemisphere." *Cincinnati Lancet-Clinic*, March 8, 1890.

Indians (as already claimed by him), giving reasons why this word could not have existed in their language without the disease being known to these Pend d'Orille Indians and others. Their language, according to their own statements, changed during the last one hundred years, and is constantly changing. They have no written tongue; the words in many cases are composed of a number of letters and several syllables in expressing simple objects, as shoe, snow, sore, fire, mill, smoke, eagle and doctor. Then there are many modern words, as mill, horses, gun, tobacco, railroad, telegraphs, and so on. The words used by some natives for the sun, watch, and time of day are very much alike to my ear, especially that of a watch and the sun. Sugar and spoon are short words.

There are many things the aborigines of Colville Valley never saw or possessed during the past hundred years, yet they have given them long and short names on seeing them. They used the cross as an object of veneration long before the "black gowns"⁹ (Equileux) or Catholic priests came among them; and yet one might claim that one of the "Apostles of Christ" visited this country centuries ago, forgetting that the emblem of Christianity *existed in "Pre-Historic Ages" amongst primitive man of Europe as an object of veneration*; and, as a means of punishment in our Saviour's time, was employed by the Romans. How can a man claim a Calispel word was pre-Columbian, or that of the majority of the aborigines, and that for centuries their language had never changed, the same word meaning exactly the same thing in all periods? This does not allow for the fact that some tribes may have adopted another tongue, either willingly or through bondage, as the Indians in some cases held slaves. I read an article in a Catholic periodical in which the author states, in regard to Mexico, it was difficult to distinguish and decide which were the ancient and which the modern writings in examining the ruins, etc.

I am not aware that any pre-Columbian syphilitic bones of the Quiches, Mayas, or Aztecs have ever been found and

⁹ Indian name for priests.

examined by competent authorities. *A syphilitic bone would be proof positive* (even if the antiquity, etc., could be refuted) *that the disease once existed in Mexico, Yucatan, West Indies and Central America.* Writers on this subject only offer literary evidences, which are far inferior in many details to European, African and Asiatic sources as to the origin of the disease and its great antiquity. Columbus, in his first voyage, visited Cuba and Hayti after discovering San Salvador in 1492, set sail for Spain January 1st, 1493. In September, 1493, he again visited America. On his third voyage, 1498, he sailed near the South American coast. During one of his voyages he visited the coast in the vicinity of Honduras. So far as the disease existed among the Incas of Peru, syphilitic bones have been found in this locality, and it is claimed they are of great antiquity. This could not prove that the Spaniards under Columbus contracted this curse and spread it through Europe. There was more or less communication between the West Indies and the American continents. If syphilis was so common among the Mayas, Quiches, Toltecs (*and the Aztecs of the time of Columbus and Cortes*), *where are the skeletons bearing the lesions of this scourge to substantiate this historical claim?* The old Spanish historians and other travelers differ on this medical point in regard to the existence of this malady among the aborigines.

I am well aware of the fact, that the preparation of the dead for interment, mode of burial, the soil and climate, have their preservative and destructive effects upon the bones of man. Ought not the climate of Mexico and Yucatan be as favorable in some portions for the preservation of human remains as Tennessee, and the Madisonville locality?

Oscar Peschel¹⁰ says: "The phenomena of American civilization thus originated independently and spontaneously, and what is still more remarkable, the respective civilizations of the northern and southern continents de-

¹⁰ "The Races of Man and Their Geographical Distribution," Oscar Peschel (English Edition), p. 441.

veloped themselves entirely without reciprocal contact or aid, for the Mexicans were as little aware of the existence of the empire of the Incas as were the Peruvians of the splendors of Tenochtitlan or of Palenque. The geographical knowledge of the Aztecs extended only to the Lake of Nicaragua, as far as which their language was spoken, or single bands of colonists had penetrated who spoke Nahuall. On the other hand, according to a record, which is, however, of doubtful authority, the Inca Huayna Capac is said to have received tidings of the appearances of bearded strangers (under Baboa in 1513) on the western shore of the Isthmus of Darien." In 1519, Hernando Cortes landed on the Mexican coast. Pizarro invaded and conquered Peru in 1531. So if it is conceded syphilis existed in Peru previous to the Spanish conquest, the Mexicans had no communication with the Incas, which latter people "conquered the empire of Quito" in 1487. The distance between Mexico and Cuzco is about 2,900 miles." * * * *

Peruvian syphilis¹¹ does not prove that this disease did not exist in Europe previous to and at the time America was discovered.

It may have been of Asiatic origin, for it was in China, according to Dr. Buret, 5,000 years ago, and these people and the Japanese visited America before and after 1492, it is said. The Chinese¹² called America "Fou-Sang," and the Japanese were acquainted with this country, calling it "Fou-So," and also with the missions "which left the land Ki-Pin" for the foreign land. In a discussion of this character as before stated, syphilitic bones are the only positive evidence, and must be of *Pre-Columbian times, and of undisputed antiquity, in order to prove the American origin of this scourge.*

The historical dates, history and description of this curse, amongst enlightened Europeans, is apt to be of more value in regard to accuracy, etc., when compared with mythology and traditions of the hardly semi-civilized nations of the

¹¹ "Syphilis in Ancient and Prehistoric Times," Buret, p. 56.

¹² *The Human Species.* A. De Quatrefages, pp. 202-207.

Western Hemisphere. Prof. Otis Mason¹³ says that Prof. Holmes,¹⁴ as a result of his archæological researches in "the United States," has come to the conclusion that our mounds, ruins, etc., are of quite recent date, as compared with those of the Old World, especially in regard to our "Palæolithic Man" (*I do not refer to the present Indians*), so far as his antiquity is concerned, when we take into consideration the "Primitive Man" of Europe. He believes the so-called "Palæolithic Man" is our American Indian, of quite recent origin.

Prof. Holmes agrees with Prof. Cyrus Thomas in regard to the age of mounds, etc., which, according to Dr. Joseph Jones, contain "*probably the most ancient syphilitic bones in the world.*" Prof. Otis Mason refers to these burial-grounds, and coincides with the above-named gentlemen, believing in the modern origin, and that the Indians built them at different periods. De Soto invaded Florida in 1539, and died and was buried in the Mississippi River in 1542. This man roamed over Florida, Alabama, Georgia, with his followers, dying in the country of the Natchez Indians. So much for the American origin of this curse, and antiquity of Dr. Jones' specimens, mounds, and historical speculations.

In my previous paper,¹⁵ I called attention to the very recent origin of the "Madisonville Prehistoric Cemetery," and also of the Tennessee mounds. Prof. Jones wrote a long article on the subject of mounds, as to who built them, etc., and also to finding diseased bones of man (in these modern burial-grounds as claimed by myself). Probably Spaniards and others of the white race may have spread this disease among the most ancient of these mound-builders. Dr. Jones speaks of syphilitic bones being found in Louisiana¹⁶ in mounds¹⁷ upon which were growing trees estimated to be

¹³ Of the Bureau of Ethnology, Washington, D. C.

¹⁴ Of the "National Museum," of Washington, D. C.

¹⁵ "Syphilis—Its Age and Relation to the Antiquity of Man," *Va. Med. Monthly*, May, 1893.

¹⁶ *Smithsonian Contributions to Knowledge*, Vol. XXII.

¹⁷ *Medical and Surgical Journal*, of New Orleans, La., June, 1878. "Explorations and Researches," etc., as reported by editor.

from two to five hundred years old, by their "annular rings." It is a question (to my mind) if to any degree of accuracy, as claimed by scientists, you can always judge of the age of a tree by its "annular rings," in a given locality, and apply it as a rule to all trees in any section of the "Western Hemisphere." James C. Southall,¹⁸ in speaking of some trees¹⁹ growing on mounds, says, "Three hundred years would be a fair average." "In Wisconsin," Dr. Lapham,²⁰ as quoted by Dr. Foster, says, "It requires a lapse of from fifty-four to one hundred and thirty years for a tree to increase its diameter one foot; three or four feet is a large tree; few exceed that size; hence, we may infer that few of the trees now growing in Wisconsin can antedate the discovery of this continent by Columbus." David Trowbridge says, "One grave in which several bones were found, was under a root of a stump of a large pine tree. This tree was, perhaps, from three to six hundred years old, and it is probable that it has grown there since the grave was made." In regard to the claims made by Prof. Joseph Jones concerning the "stone coffins" of Tennessee, mounds, and other burial-grounds in Kentucky and Louisiana, there are several things to be proved—the great antiquity of these old graveyards, the age of the trees growing on these mounds. Who were the people that built them, and where did they originally come from, and what became of them—if they were not the forefathers of the Indians inhabiting that country at or after the invasion of the Mississippi Valley by the Spaniards?

Some stress is laid upon the mode of burial of these mound-builders and the contents of these graves. The mode of burial proves nothing, although Dr. Jones thinks it goes to show that the Indians did not construct these "stone coffins," giving various reasons for his belief and their antiquity.

The Indians of our country have various customs in dis-

¹⁸ "The Recent Origin of *Man*," James C. Southall, pp. 532-533.

¹⁹ "The Epoch of the *Mammoth*," James C. Southall, pp. 383-386.

²⁰ "Smithsonian Report for 1863," p. 381.

posing of their dead. I have seen bodies buried in piles of rocks at the foot of cliffs, and others are placed on platforms, in caves, etc., while some were burnt. These different tribes lived during the same period, and in many cases were neighbors. They traveled three or four hundred miles to hunt and fight. Inland Indians, as in Idaho, and east of the Rocky Mountains, wear sea-shell ear-rings and ornaments. The rivers of North America were the thoroughfares of the country upon which the natives lived and traveled. They traded with one another, and with distant tribes, who came in contact with still more remote aborigines.

There is absolutely nothing upon which to base any calculations as to the antiquity of our ruins and mounds when considered from an archæological standpoint. So far as David Trowbridge's finding the skeleton under the roots of a tree, I will state, that the Calispels Indians formally buried their dead in cairns, or piles of rocks, while necessity sometimes compelled them to bury their dead at the foot of trees of large size, and in three hundred years the tree would encroach upon the body of the Indian.

There has been for some years a controversy as to who built the mounds in "the United States," and also in regard to their antiquity. Bishop Madison, of Virginia, claimed the Indians were the "mound-builders." Rev. Thaddeus M. Harris, of Massachusetts, disagreed with him, and asserted the Toltecs constructed these works. *These gentlemen represent the two principal sides of the discussion.* "Dr. Franklin, in reply to the inquiries of President Stiles," suggested Ohio mounds were built by De Soto. Noah Webster tried to sustain this claim, then abandoned the idea, claiming the Indians built them. The distinguished followers of Rev. Mr. Harris, according to Professor Cyrus Thomas, are John T. Short,²¹ Dr. Dawson,²² Rev. J. P. McLean,²³ Prof. Joseph Jones, M. D.,²⁴ Wilson ———, modifies these views

²¹ Author of "*The North Americans of Antiquity.*"

²² Author of "*Fossil Man.*"

²³ Author of "*Mound Builders.*"

²⁴ Author of "*Antiquities of Tennessee.*"

somewhat, as to the original home of these people being south of Mexico as the Toltecs formerly lived in that locality, and the Aztecs as being the descendants of the "mound-builders." Baldwin²⁵ believes they were the Toltecs, and locates them in the same locality as Wilson.²⁶ Lewis H. Morgan supposes the Pueblo tribes of New Mexico built these structures. Bradford²⁷ suggests Mexico as the home of the Toltecs. Dr. Foster²⁸ practically agrees with Baldwin. Bishop Madison's followers are Dr. MacCulloch, Samuel G. Drake, Schoolcraft, Sir John Lubbock, Prof. Lucien Carr,²⁹ Dr. D. G. Brinton, Heckewelder,³⁰ Prof. Otis Mason, and Prof. Cyrus Thomas. Prof. Thomas Wilson³¹ believes in the great antiquity of these, and rather favors Rev. Mr. Harris' side of the question. I believe the Indians built these mounds at different periods, and they are of recent origin, and also Prof. Jones' syphilitic bones, found by him in these structures. Dr. Brühl, in his last paper, called Prof. MacLean's attention to the fact that he was the author of a book on mounds, in which he admits having seen syphilitic bones found in these works.

According to Prof. MacLean, Prof. Putnam says: "Although, as would be expected from two persons having nearly identical material in hand, I am forced to differ from him in some of his conclusions, particularly so in regard to the evidence of syphilis prevailing in this old nation of Tennessee—undoubtedly many of the human bones show the results of disease; but it may be that the disease was not syphilis, and that other diseases affect the bones in a similar manner." Prof. Jones³² makes the following state-

²⁵ *Ancient America.*"

²⁶ Author of "*Pre-Historic Man.*"

²⁷ Author of "*American Antiquities.*"

²⁸ Author of "*Pre-Historic Races.*"

²⁹ Author of "*The Mounds of the Mississippi Valley Historically Considered.*"

³⁰ *History of the Indian Nations.*"

³¹ Author of "*Burial Mounds of the Northern Sections of the United States.*"

³² "*Smithsonian Contributions to Knowledge*," Vol. XXII, 1876; "*Exploration of the Aboriginal Remains of Tennessee*," p. 49; "*Mounds, Fortifications and Earthworks*," pp. 35, 65.

ment: "The long bones of the arm (humerus, ulna and radius) and the long bones of the thigh and legs (the femur, tibia and fibula) bore deep erosions, nodes, and marks of severe inflammatory action. Many of the long bones were greatly thickened, presenting nodulated, eroded and enlarged appearance. When sections were made, they presented a spongy appearance, with almost complete obliteration of the medullary cavities. The specific gravity of the bones was diminished, and the microscopical characters were, in all respects, similar to those of undoubted cases of constitutional syphilis."

"Dr. Hyde³³ calls attention to the fact that syphilitic bones have been found in Colorado, California, and other parts of our country in the graves of the aborigines." Dr. Prudden does not consider the adult whose bones he examined had "any phase of hereditary syphilis," etc. He further states: "There is no evidence whatsoever, so far as I can see, of the presence, at any time, of the more common and typical circumscribed, nodular, or gummatous lesions, which are alone characteristic of syphilis of the bones." These bones had been sent to Dr. Jas. Nevins Hyde, who referred them to Dr. T. M. Prudden, and were from Colorado. Dr. Buret³⁴ says J. Parrot was the first to demonstrate syphilis existed in the Stone Age of Europe. In France syphilis existed in "Pre-Historic Times." A skeleton³⁵ of a female was discovered by Abbe Ducrost, and the tibiæ were "the seat of *exostoses*, manifestly *syphilitic*." "Broca, Ollier, Parrot and Virchow" pronounced these bones as *syphilitic*.

The best authorities on anthropology, "Broca, Parrot, and others," say these bones belong to the "Stone Age" during the reindeer period. A number of other *syphilitic* relics were found in dolmens, etc., of different periods. Virchow³⁶ says, in and A. Stübel. Part XIV. Skulls. Rudolph Virchow, M. D., LL.D. speaking of Peruvian skulls: "From these deviations be-

³³ *American Journal of Medical Sciences*, August, 1891, pp. 127-128.

³⁴ "*Syphilis in Ancient and Pre-Historic Times*." F. Buret. P. 38.

³⁵ "*Syphilis in Ancient and Pre-Historic Times*." Chapter IV.

³⁶ "*Peruvian Antiquities*"; "*The Necropolis of Ancon in Peru*," W. Reiss

longing to early childhood, partly fœtal life, must be distinguished the also very frequent pathological changes peculiar to advanced age. Conspicuous amongst these are the thickening and density of the bones ranging from quite simple states of slightest hypertrophy to complete sclerosis and appearances of arthritis deformans." Again, Virchow remarks, under headings of "Plates 108-110," "*Slightly Deformed Skulls*": "Skull 1554, hence, may be taken as a fairly typical specimen." Round the great occipital foramen traces are seen of arthritis deformans. Perhaps connected therewith is a general hypostosis of the calvarium." This crania, he says, probably belonged to an elderly man. "Apart from the thickness of all the bones," etc., * * * "the form of the skull was orthobrachycephalic." "At the posterior part of both parietals is visible a longish depression, apparently the result of a traumatic influence." "On the right supra-orbital arch a depression like a cicatrix," etc. "On a skull just in front of the fontanelle region a flat exostosis occurs." Now, in regard to the syphilitic bones found in France, Dr. Buret³⁷ says: "M. Rollet, who, upon several occasions examined these valuable relics, remains convinced that the exostoses of the skeleton of Solutré e to be considered as "more certain indications of syphilis than the cranial deformities."

Here, then, at least is a fact, that the *disease existed, was of great antiquity, and was in France before the discovery of America, as demonstrated by the bones and age of the locality in which they were found.* I cannot see why all literary evidences, existing before the discovery of our continent, should be ignored in favor of Aztec traditions or mythology and that of the Columbian era. The French, Italians, Spaniards and Indians each deny being the authors of this malady. *Why is the poor savage's statement not accepted? and yet you refer to his traditions.* If the aborigines of our continent were better acquainted with this venereal disease and its treatment, how could European men express any opinion

³⁷ *Syphilis in Ancient and Pre-Historic Times.* Buret. P. 38. Vol. I. (English edition.)

on the subject and its past history for centuries previous to 1492?

*Indians have a reason or motive for everything they do, be it good, foolish, or bad from our point of view of the subject. They are, to a certain extent, and along certain lines of investigation (which has by force of circumstances been thrust upon them), great observers, studying nature and diseases to a greater or lesser degree. They experimented with American herbs, roots, etc., using them in the treatment of syphilis or any other malady. Aborigines of the "Western Hemisphere," finding a root beneficial in the treatment of pains, aches of all kinds, skin eruptions, rheumatism, and possibly facilitating the healing of ulcers in their opinion, they quite naturally applied their remedies to the treatment of syphilis. The same rule holds good in regard to hot baths, mineral springs and "medical lakes," as used by them in sickness. "Dr. Shrady, among them, thinks we have been too ready to accept the compliment paid by the ancient continent to the new in crediting it with the origin of the disease." "Prof. Brinton, the American paleontologist," says "the origin of syphilis is still an open question." Parrot³⁸ and Broca agree this scourge was in Peru before the Spanish Conquest. "Broca³⁹ thinks there is documentary⁴⁰ evidence to prove the possibility of the existence of syphilis in Europe before the discovery of America." No doubt there were many "intrusive burials" in Peru, as was the case in America. *Many Peruvian bones may be of quite recent date and not antedate the arrival of the Spaniards. The crews of Columbus, Cortez and Pizarro would have to contract the disease in the West Indies and in Peru and Mexico, while, on the other hand, Europe would have to be proved entirely free from this scourge.**

Dr. James Nevins Hyde says, "As yet, we cannot say of

³⁸ "Pre-Columbian Syphilis." Dr. Albert S. Ashmead. *Med. News*, Oct. 31, 1891, Vol. LIX, No. 18, p. 511.

³⁹ *Syphilis in Ancient and Pre Historic Times.* Dr. F. Buret, p. 43. (English edition). *Va. Med. Monthly*, May, 1893, p. 173.

⁴⁰ "La Soi Disant Origine Américaine de la Syphilis D'Ou Vint Cette Légende." Par Le Dr. F. Buret.

any bone in our collections that the demonstration both of its syphilitic character and prehistoric existence is without a flaw." The main points described by Virchow⁴¹ in regard to the diseased Peruvian skulls referred to in this paper are as follows: "*Appearances of arthritis deformans, sclerosis of the occipital foramen. thickening and density of bones increased, exostosis and general hyperostosis of the calvarium.*"

In conclusion, I will call your attention to certain statements made by Dr. Johannes Orth⁴² in regard to diseased bones: "A few words may be said with regard to syphilis in bone. As in other tissues, any or every form of inflammation (ossifying inflammation inclusive) may be indirectly of syphilitic origin, though the only forms of a true specific nature are gummosis, periostitis and osteomyelitis, and these forms can be recognized as specific only when the gummy formation has not been absorbed. If absorption has taken place, irregularly-shaped depressions and defects are found on the surface of the bone, which may be the results of other and entirely different affections, but always awaken the suspicion of syphilis, especially when they are multiple. This very element of multiplicity may, indeed, excite suspicion of the real nature of inflammations which are apparently perfectly simple, but never justifies the positive diagnosis of syphilis unless it is supported by other evidences.

The partiality which is shown by syphilitic inflammation for the anterior surface of the tibia is well known and of clinical value; its cause may perhaps lie in the extreme liability of the part to mechanical injury." Are there any really positive pre-historic or pre-Columbian syphilitic bones either in Europe or America, which are beyond all dispute, or are we to rely entirely on literary evidence to settle this discussion? I shall leave you to decide this disputed question.

⁴¹ "*Peruvian Antiquities*," "*The Necropolis of Ancon in Peru*," W. Reiss and A. Stübel, Part XIV. "*Skulls*," Rudolph Virchow, M. D., LL.D.

⁴² "*A Compend of Diagnosis in Pathological Anatomy, etc.*" Dr. Johannes Orth. Translated, Frederick Cheever Shattuck, M. D., George Krans Sabine, M. D. Revised by Reginald Heber Fitz. 1878. Pp. 423-424.

ART. IV.—Treatment of Placenta Prævia.

By C. R. BURKS, M. D., of Sherwood, Va.

It occurs to me, that in reading the different works on Midwifery, it will appear somewhat strange to the mind of every young practitioner, and I may include some of the older ones, that the treatment of that most formidable of all the accidents to which child-bearing women are exposed—viz., placenta prævia—is far less clearly defined than might be wished; nor can we expect it to be otherwise, for it is the inherent consequence of the very nature of the difficulty, in which the danger is so imminent, and the tendency to death so strong and rapid, as in some instances almost to preclude the possibility of any treatment whatever.

As in all the critically dangerous cases which have been recorded, different modes of treatment have been advocated and adopted, and each has had its successes to record and its followers to praise.

Some authors tell us that our reliance must be on the use of the tampon until the os uteri be sufficiently dilated or dilatable to permit the operation of turning, without lacerating the womb by forcing an entrance, and thereby destroying the woman; but this is too vague to be of much practical use, nor could any man with the right kind of a heart in his body submit to obey it with a fellow-creature bleeding to death before him. No; he must act, and act promptly, to accomplish a great good; he must nerve himself to incur some risk. He may, it is true, be a little too soon, but it would be worse to be too late.

On the other hand, some distinguished authorities object to the use of the tampon, considering it insufficient and even dangerous. One eminent professor across the waters has advocated the practice of separating the whole of the placenta, and removing it as soon as the os uteri is sufficiently dilated or dilatable. But with all deference I must confess I am not convinced that we have gained much by

the suggestion, for the poor sufferer might still bleed to death long before the aforesaid requisite degree of dilatation or dilatability had taken place. These gentlemen bring forward cases, each to prove the superior efficacy of his own mode of practice, and there can be no doubt but that each mode has occasionally succeeded, for such accidents left entirely to nature have sometimes, by her unaided efforts alone, been brought to a happy termination.

Professor Parvin says: "Let us now pass to the consideration of the tampon in obstetrics. Korinann, whom I quote as the most recent author of a text-book upon obstetrics, observes that tamponing the vagina is indicated in dangerous hæmorrhage from the genitals in pregnancy, in labor, and in childbed. In pregnancy, it becomes necessary in the severe bleeding from abortion, or from placenta prævia; in labor, in hæmorrhage from placenta prævia, or from ruptured varices, if the os uteri be not sufficiently dilated to permit the immediate ending of the labor, and in the after-birth period, the os uteri having been closed, an excessive anæmia forbidding immediate detachment of the placenta, and after the labor is over, because of hæmorrhage from a tear in the cervix, or from central placenta prævia.

Time will permit the consideration of the use of the tampon in only two of these conditions, to-wit, in abortion and in placenta prævia."

And again he says: "Few subjects in practical obstetrics have given rise to more controversy than the use of the tampon in hæmorrhage from placenta prævia. Some have claimed the highest value for the tampon, and are content to let the labor go on, provided the presentation is normal and the uterine contractions vigorous, no other means being used; others utterly reject it, and still others use it temporarily, meeting a present indication, but only as a means to an end."

Baudelocque, nearly three-quarters of a century ago, announced the rule of obstetric practice in cases of grave hæmorrhage from placenta prævia. He says, "The necessity of effecting delivery without having regard to the time of pregnancy, when the loss of blood is so abundant as to imperil the life of the mother and that of the child, has been recognized for more than two centuries." And yet if one consults Playfair's system of *Midwifery*, referring to

the part where the author considers the treatment of placenta prævia, he will see that this important rule of practice is regarded as quite recent in its enunciation. "Grave hæmorrhage, then, it will be agreed, is an indication for prompt delivery; that is, deliver if you can. But suppose you cannot, what then? Here we must at once meet the flooding, which carries peril to both mother and child."

So far as the tampon in labor is concerned, the difference of opinion is very decided—two of the most distinguished obstetricians, for example, of this country (Dr. Ellwood Wilson and Dr. Albert H. Smith) rejecting it, I believe, absolutely. Pagot and Bailly probably are the most eminent French obstetricians who are willing in certain cases to trust the labor entirely to the tampon. Among all who have in recent years sustained this practice, no one seems to have given proper credit to the distinguished obstetrician with whom it originated quite early in the present century, Wigand. In justice, therefore, to him, and as explaining his method, let me quote from a paper of his.

In describing his method, Wigand states that, in the slighter hæmorrhage from placenta prævia, he simply directs mental and bodily rest, when the flow stops, only gentle exercise being permitted, internal medicines being unnecessary, unless there are some obvious disorders to be corrected. "As soon as the first labor-pains begin, sometimes at the first occurrence of decided hæmorrhage, I prepare a large tampon of soft linen, dipped in a thin oatmeal gruel, and the broad end, which is first passed into the vagina, is thickly covered with powdered gum arabic and resin. The tampon is then introduced so that it lies in the mouth of the womb, close to the already loosened part of the placenta. In order that the tampon may remain fixed and immovable in the same place, I further fill the vagina in all directions and in all crevices as firmly with linen or fine sponge as can be done without inconvenience to the patient. A thick napkin is closely applied over the genitals, and the parturient then lies upon her left side, with her thighs close together. I hold this position to be the

most suitable, because then the placenta, not with its centre, but its border, first enters the vagina; for my observation has taught me that, as a rule, it is the right side of the placenta which is first loosed and comes out of the uterus."

And, further, Wigand states that, should the patient, after some hours, complain of burning in the vagina, he takes out the tampon, replacing it by a fresh and smaller one. "But before the introduction of the latter, I observe as to the following: Whether the mouth of the womb is considerably dilated, and whether the placenta has already begun to separate from one side or the other, usually the right; whether the head, or the feet, or some other part of the child presents; whether, especially at one side of the cervix, again generally the right side, the presenting bag of waters is tense and elastic; and whether one can perceive that the presenting part of the child, as well as the separated border of the placenta, equally move down. If I find any other part of the child than the head, the feet, or the pelvis presenting, I proceed at once to turn the child, doing this with a much greater confidence, as the os is already softened and dilated, and the uterus has entered upon the birth-work and will complete my purpose. Once more, is the child's position normal, the configuration of the uterus good, the pains strong and efficient, the progression of the child decided, the tendency of the loosened placenta to place itself at the side of the vaginal wall plain, if the patient's pulse is full and slow, her temperature good or even, which is here especially desirable, she has a warm perspiration, I leave the rest of labor entirely to nature, which alone, sooner or later, by means of unusually rapid and powerful pains, will expel the living, healthy child, at the same time also the second small tampon, if such has been found necessary to introduce. The placenta was spontaneously expelled in all cases shortly after the birth of the child." He (Wigand) subsequently remarks: "It must be sufficient for me to assure my reader that I have made use solely of this method in placenta prævia for many years, and have not

lost a single child or mother; and, besides, have secured by it for the latter a completely normal lying-in.

"I do not deny that my method, like any other, has sometimes its own difficulties and complications. * * * And, even if nothing else shall be conceded to it, it cannot be denied that, of all methods, it is the most suitable and reliable to properly prepare for the operation of turning, if the latter has become necessary, facilitating it for the parturient and for the operator."

Parvin says: "These quotations prove the priority of Wigand in the tampon treatment of placenta prævia, and also show the extraordinary success which attended this method in his practice. But it is also shown that he did not place exclusive reliance upon it, regarding it as suitable for all cases. To-day, I imagine, few practitioners would deny the value of the tampon or fail to use it in certain cases."

Professor Parvin further says: "It must be admitted that the tendency of obstetricians has been, in recent years, to the rejection of the tampon. Kleinwächter, for example, asserts that tamponing is irrational. Probably the just appreciation of the tampon in placenta prævia has been given by Müller in his well-known work, which says: 'We draw from the studies the correct conclusion as to the action of the tampon. It is not to be looked upon as a sovereign remedy, as its friends claim, nor to be excluded from therapeutic means, as its opponents desire. The tampon is an important aid, but, like many others, only in the hands of those who can properly apply it. Use it at the right time, and then no longer than is necessary. Apply it when the mouth of the womb is rigid and slightly open, if violent hæmorrhage occurs, for immediate delivery is impossible. You can, by its use, gain time without danger, for, even if it does not stop, it lessens the bleeding, and prepares the yet unprepared birth-parts for labor.'"

From experience, my own conviction is that, in the practice of medicine, midwifery, or surgery, all exclusive modes of treatment are unphilosophical and absurd; that, in un-

avoidable hæmorrhage especially, the treatment which in one case would enable the unfortunate woman to overcome the frightful danger which threatens her, might in another be utterly useless, or even hurry on the dreaded event. In relation to the treatment of placenta prævia, I do not presume to offer any new theory, or even a single practical novelty, convinced as I am that all the hobby horses will occasionally share the same fate and be considered terribly lame at the lying-in bed-side; but having recently treated such a case successfully—for the sufferer, though bloodless, blanched and nervous to an extreme degree, recovered—I will relate the circumstances as they occurred, state how, when and why I acted, and leave my readers to judge the practice by the best test we have—the result.

Some time during the last year, I was called to Mrs. M——, then pregnant with her fifth child. (It is not necessary I should be particular as to the exact time.) I found her sitting on a chair, very much alarmed by some sudden gushes of blood, attended with some pain, though not of a severe nature. This condition of things, I was informed, had continued for two hours, as I was not at home when the messenger came for me. When I reached her the hæmorrhage had entirely ceased. I had her immediately put to bed, and, on making some inquiry, I found that she considered her pregnancy advanced to about the end of the eighth month, and, on making a vaginal examination, I was satisfied by the condition of the neck of the womb that her supposition was a correct one. At the time, she complained a little of pain, and that her head felt strange and full, with a sense of aching and stiffness, as she described it, in the eye-lids; the pulse was rapid, full and bounding, and there was a feeling of oppression in the chest; there was also some epigastric uneasiness, with a rather wild look of the eyes. These symptoms made me fearful of an attack of puerperal convulsions, and I immediately took some blood from the arm, with the effect of giving great relief, and, after waiting an hour and giving her an anodyne, left her.

And just here, let me say that I believe venesection is the sheet-anchor in convulsions, both before and after delivery.

On my visit the next morning, I found her much im-

proved, pulse good, respiration free, head all right, countenance natural, and mind free from anxiety; but in about ten hours she had another sudden attack of flooding, unaccompanied by pain or uneasiness. It stopped, however, as suddenly as it came on, and for a time she remained tranquil and comfortable. Thirty-six hours later she had another attack of the same nature, the loss of blood greater than before, without the slightest pain or disposition on the part of the uterus to take on expulsive action. On this occasion, as formerly, the flooding, after a few gushes, suddenly ceased, which fact convinced me that I had a case of placenta prævia to contend with, but to what extent, whether partial or complete, it was impossible to say in the present state of affairs. So I left her, with directions to keep perfectly quiet and let me know if there was any return of the flooding.

I heard no more of her for three days. At the expiration of that time, about one o'clock at night, I was roused from my bed to see her. I hurried to the house, and, on entering her room, found her much excited, though looking tolerably well. She hastily informed me that she had had a tremendous flooding. I immediately made an examination, and was much relieved by finding that she had not lost a single drop of blood, but that the membranes had given away, and that it was the discharge of the liquor amnii which had caused the alarm—still not the slightest pain or contraction of the uterus. I made a vaginal examination and found the cord presenting. This satisfied me that, if the placenta presented, it could be but partial, and I hoped that regular contractions would shortly ensue and terminate this hitherto discouraging case without further troubles. There was not the slightest tinge of blood in the amniotic discharge, and the cord pulsated strongly, but the os uteri was so slightly dilated and the probability of a natural delivery so good that an attempt to turn would have been perfectly unjustifiable.

I resolved to wait and watch results. I had not long to wait, for in a short time she was seized with a sudden and profuse flooding. She became pale, gasping, almost pulseless, and partially convulsed. Whiskey was freely given, and now satisfied that another such hæmorrhage would be fatal, I applied the tampon, resolved to turn and deliver by the feet as soon as the poor woman's strength should be sufficiently rallied to justify the operation. After the lapse of an hour, finding that there were no pains, that the pulse

did not improve from the whiskey, and that there was some slight loss of blood through the tampon, and fearing internal hæmorrhage, I determined to act without further delay; accordingly, I gave her a full dose of ergot and removed the tampon; on passing my hand cautiously into the vagina, I found the os tincæ dilated to about the size of a silver dollar, or perhaps larger, but lax, the uterus being perfectly passive, caused, I presume, by the great loss of blood. My hand passed without much resistance into the organ, I found the child lying to the left side, nearly in the first position of Baudelocque, while the placenta could be distinctly felt on the right side, extending from the os, covering about one-third of its disc, and stretching up towards the fundus.

I soon found one foot of the child, which was brought into the vagina and secured with a fillet; I immediately proceeded to search for the other. The ergot or the hand, or perhaps both—I have considerable faith in the manual stimulation—had now produced some uterine action, which rapidly increased; so much so, indeed, that the introduction of the hand was much more difficult. Having, however, secured the other foot, it was brought into the vagina, and a dead child brought away without much further difficulty; the patient was given more whiskey, and I kept up a steady pressure on the womb, so as to cause it, by its tonic contractions, as it were, to follow up the exit of its contents.

The placenta was easily removed, and a most gratifying circumstance—the patient's strength seemed to be rather improved than exhausted by the operation. There was, strange to say, no hæmorrhage from the time that I first introduced my hand. The treatment of this case since delivery would be useless and perhaps tiresome to repeat. But suffice it to say, she made, though slow, a good recovery.

Lotsil

Is the name of a compound of thymol-acetamide, recrystallized, purified, and combined with citrate of caffeine, mono-bromide of camphor, and sodium bicarbonate. The formula accompanies each package, as sent out by the manufacturers—the Listol Chemical Co., of Chicago, Ill. It reduces temperature and relieves pain very promptly, without subsequent depressing effects.

ART. V.—Electric Batteries and Some of Their Distinctive Features in the Treatment of Disease.*

By FRANCIS B. BISHOP, M. D., of Washington, D. C.

In presenting to the Society this subject, it is my aim to remark briefly upon the apparatuses used in my office and my experience with them therapeutically.

For a number of years, my office equipment consisted of a galvanic and a faradic battery, for I was happy in the belief that all the physiological and therapeutic effect could be derived from these that could be obtained from electricity. Later, when my practice in this line increased, and patients began to inquire why I did not use static electricity, I found it necessary to purchase a static machine, in order, as I thought, that I might not be considered behind the times. The static machines of to-day are far superior to those of only a few years ago. The one I have is the Hotz machine, as improved by Dr. A. L. Ranney, of New York. Dr. Ranney seems to be continually adding some improvement to this machine, until now it appears to be very nearly or quite perfect. The old method of charging with cat skin rubbers is done away with, and now a machine may be charged in a few seconds with the small Wimhurst influence machine, that goes with each large apparatus, making the outfit very complete. Dr. Morton, of New York, has designed and placed upon the market a most complete machine, with the Wimhurst influence machine inside the case of the large static apparatus. It possesses points of advantage over other machines, from a standpoint of convenience, in the way of switches, binding posts, shelves for Leyden jars, etc., and, of course, it can be more quickly charged. It has eight revolving plates, and his large size machine has plates larger, I think, than any machine made, unless it be made to order. And, as the quantity of static electricity is proportional to the size and number of the revolving plates, we ought to get a greater volume of electricity than from

* A paper read before the Medical Society of the District of Columbia, November 7th, 1894.

those machines with smaller plates and fewer of them. The objections to this machine would seem to be that two machines in one case make an already cumbersome machine more so, and increase the size, thereby requiring more office space. And as the small machine occupies a position across the end of the case inside, it would be difficult to get into the case at that end to adjust plates, combs and wheels, which it becomes necessary sometimes to do.

Then the driving wheel, in my opinion, is too small, requiring more force to revolve the plates than would be required with a little larger wheel, at the same time giving to the revolving plates fewer revolutions per minute. As the internal resistance is greatly lessened by increased velocity, and as the quantity of electricity is also proportional to the velocity of revolution of the revolving plates, it seems to me that what is gained by the larger size and greater number of plates in Dr. Morton's machine over some other, is rather lost by the small size of his driving wheel. But these are mechanical defects, and may be remedied if found objectionable.

There are other good static machines on the market, but those mentioned, I think, are the most popular.

Since placing a static machine in my office, instead of finding it a useless piece of furniture, I have found daily use for it. These machines are large, and occupy considerable space. They are also very expensive, and require constant attention to keep them clean and dry and parts all carefully adjusted, in order that they may be always ready when needed; but, once accustomed to the care of a machine, it is quite easy.

While the static current cannot take the place of either the galvanic or faradic current, there is not the least doubt that it possesses physiological and therapeutic properties peculiarly its own; and many cases, that are only slightly, or not at all, benefited by the latter, may be, and are, greatly improved, and sometimes cured by the former.

The convenience to the patient and operator, with which

static electricity may be administered, more than compensates for the trouble of keeping a machine in order.

A gentleman from the South, suffering intensely with neuralgia of the ulnar branch of the brachial plexus, had been treated for some time by galvanism and faradism with very little benefit. Five applications of five minutes each of the indirect static spark cured him.

A young lady, profoundly neurasthenic and somewhat hysterical, suffered greatly with insomnia, palpitation, cold and clammy hands and feet, headache, and painful spine; had been treated two months by galvanism and faradism with but little relief; static electricity was now added to the treatment, and on alternate days the static breeze from the umbrella electrode, and mild direct spark with the large wooden ball, applied to the spine, in a very short time gave relief. She slept better after the first application; the circulation improved; her hands and feet regained their natural warmth; her neurasthenia gradually subsided; her next menstrual period passed with very little manifestation of hysteria. During this time she took no medicine. She went away for the summer and has not yet returned, but I have heard from her regularly, and she continues to improve.

While the first step in the discovery of static electricity was made six hundred years before Christ, the experiments of D'Arsonval, of Paris, and Tesla, of New York, with currents of great voltage, small amperage and vibrations of great frequency, make it clear to my mind that, from a therapeutic standpoint, the static current is yet in its infancy, and that these experiments will open up to static electricity a field of great therapeutic usefulness. My friend Dr. Kellogg, of Battle Creek, Michigan, has experimented extensively in this line, and has written quite comprehensively upon the subject. His article in the *International System of Electro-Therapeutics*, under the caption, "Methods of Apostoli and Others," will repay any one who will read it carefully. The American Electro-Therapeutic Association, during its session held in New York in September, through the courtesy of Mr. Tesla, was invited to his laboratory to witness some of his experiments with the high tension alternating current. These experiments have been published in full, but it seems wonderful that any person

could have passing through the body, without injury or discomfort, eight hundred thousand volts,* this with only the fraction of a milliamperé. Such was my experience, and the sensation was something like that produced by the static breeze. The current was rendered harmless by the rapid vibrations, which amounted, as Mr. Tesla afterwards told me, to two hundred thousand per second. With a very imperfectly constructed coil between the prime conductors of my static machine, I am enabled to partially reproduce the experiments of D'Arsonval. An incandescent lamp, while held in the hands, can be made luminous; at the same time the current is but slightly felt.

We have also in the faradic, a current of high tension and small amperage. And in the faradic coil, we have, to my mind, one of the most complicated, and at the same time one of the most interesting subjects in electro-physics. It involves the consideration of the production of magnets by currents, the action of currents upon magnets, and magnets upon currents, currents upon currents, etc. Only a few years ago, our induction coils were simply toys, and the greater the shock produced, the greater was supposed to be the therapeutic effect.

Dr. A. D. Rockwell, of New York, with his many years' experience as a therapeutic electrician, has recognized for a long time the imperfection of the coils in use; and while there is yet a wide field for labor in perfecting the faradic coil, Dr. Rockwell has worked hard and earnestly in this line; and to him belongs the credit for many ideas, and very useful ones, that have been used in the construction of the faradic coil, as we have it to-day. Indeed, Dr. Rockwell is pioneer in many useful things and many useful methods in electro-therapeutics. And a perusal of Beard and Rockwell's "Medical and Surgical Electricity," published in 1875, will be found, in many respects, fully up to date.

Dr. Rockwell's improved coil contains nearly eight thousand feet of wire of different sizes, varying from No. 21 to

* Mr. Tesla stated at the time that eight hundred thousand volts were passing.

No. 36 wire, in metallic connection, and tapped at different lengths, forming in all twenty-one combinations of current, giving a current of lowest tension and large quantity to the full tension and resistance of the entire coil, with small quantity. It has a slow and rapid vibrator, but no means of measuring accurately the number of vibrations per second, and as the number of vibrations or interruptions of the primary circuit increases or diminishes the tension of the current passing through the secondary, thereby increasing or diminishing the sedative effect, it becomes a question of considerable importance to have the number of vibrations accurately graduated, as well as the length of coil and number of wire used, in recording cases treated by faradism. Or, in other words, in measuring the faradic current, this coil has a rheostat for regulating the amount of galvanic current passing through the primary, but no scale for measuring the amount of secondary coil. I believe it is the best, or one of the best coils on the market for general use. It certainly is one of the most convenient. The tension of the whole coil, or of all the fine wire, will brilliantly illuminate a Geissler's tube. This apparatus, complete, sells for about fifty dollars; and such a one I use in my office daily.

Dr. Engelmann, of St. Louis, after much patient labor, has constructed an apparatus with separate coils—six, I think, in all; and as each coil contains a certain sized wire and a certain length of wire, and as each coil differs from the others in the size and length, of course there is much greater possibility of recording accurately from such a coil or coils than from any single coil of varying lengths and sizes of wire. Dr. Engelmann's apparatus is also arranged for measuring in milliamperes the amount of galvanic, or inducing current, passing through the primary coil. While Dr. Engelmann claims to do this, I confess that I do not see how it can be successfully and accurately done. The vibrator is run by a separate battery. The amount of secondary passing over the primary is accurately measured in millimeters; the vibrations can be accurately graduated from one to fifty thousand per minute; the coils are short and

thick. I believe if they were longer they would be better, as with the same length of wire we would naturally get more turns if the coils were longer, and get them all nearer the magnet. This instrument is handsomely mounted on hard rubber base, and this in turn upon a fine cabinet, making not only a very useful, but also a very beautiful apparatus, and one which comes nearer perfection for scientific clinical work than any apparatus that I know.

As a diagnostic agent, the faradic current perhaps leads in the detection of simulation, and in differentiating between central and peripheral lesions; in differentiating between inflammatory and hysterical pains; in painful conditions of the pelvic cavity. And I believe if this method of diagnosis was more frequently resorted to in painful conditions of the ovaries, many useless operations would be avoided. For the relief of pelvic pain, when not due to inflammation, I believe the faradic current of high tension, by its sedative action, gives better results than any agent known. For testing the irritability of muscles and the sensory nerves, and picking out anæsthetic areas, as well as detecting painful points of the spine and elsewhere, we have no agent that equals faradism. For stimulating paralyzed muscles and re-establishing nutrition, and in many cases weak and exhausted patients, after being subjected to various methods of treatment, find that they are gradually restored to health by general faradization, as introduced by Dr. Rockwell, of New York, many years ago. The faradic current will sometimes relieve pain, when other currents fail or aggravate the trouble.

A gentleman with the lightning pains that accompany locomotor ataxia, had been treated for some time with the static spark according to the most approved method. Instead of relieving him, it intensified his suffering. The galvanic current gave some relief, but not much. The faradic current, of high tension, was used with the happiest result; the whole coil of eight thousand feet of wire was thrown in circuit. While the inducing current was made gradually as strong as three Sampson cells could make it, large surface electrodes were used to the sides and

front of chest. After a few minutes he would experience great relief, and in fifteen or twenty minutes he would breathe easily and in a short while fall asleep. The relief would last for several hours.

Faradism occupies a position midway between static electricity and galvanism. The galvanic current has work to perform which cannot be done by any other form of current, and the medical batteries are of various kinds, according to the fancy of the manufacturer and the kinds of cells used; some giving a little more voltage or amperage, according to the construction of cells, the exciting fluid or agent used, the internal resistance and size of elements, and their distance apart in the cell; but it is the galvanic current, and with a good milliampre-meter, it matters little about the form of battery, so far as the current is concerned. The cabinet batteries are many of them beautifully constructed, and are all, I believe, more or less complicated. My idea of a battery is, that the more simply it is constructed, and the better it is understood by the operator, the more successful he will be in manipulating it, and the better will be his results. I use a cabinet battery of my own construction, composed of forty Leclanche cells, a simple switch-board, with pole changer, and in circuit with a Baily rheostat, and Waite & Bartlett's improved milliampre-meter. If anything gets out of order, I am usually able to detect the trouble in a few moments.

For portable purposes, I prefer always the fluid battery. If well constructed, with good hydrostat, there is not much danger of spilling fluid; and while they may be a little unhandy, and not so pretty as some of the dry-cell batteries, they are much more reliable, and are easily kept in order, parts all easily reached and kept clean, zincs or carbons can be replaced when needed, and when the batteries are exhausted the cells may be emptied and refilled at small cost. The current is of better volume and greater voltage. When the dry-cell battery is exhausted, new cells must be bought or the battery sent to the factory for repairs. I keep several

fluid batteries on hand all the time for treating patients at their homes.

The chemical, electrolytic and cataphoric action of electricity must come largely from the constant current, such as the dissipation of fibroid tumors, goitres, organic strictures, moles, warts and nævi; also the removal of superfluous hair, etc., as well as the driving in of cocaine and other drugs into the tissues by cataphoresis. A doubtful diagnosis is often cleared up by the galvanic current; degenerated nerves and muscles are stimulated to take to themselves nourishment, and to renew the processes of life. Pain is often relieved by the constant current, when other means have failed.

A young lady sustained an injury to the spine, by being knocked violently to the sidewalk four years previously. She has suffered intensely during this time, spending the greater part of her time in bed; had been treated by many doctors and many methods, among other things, static electricity and faradism had been administered with very little if any benefit. When I saw her, she had a very irritable spine; very tender over lower cervical and upper dorsal region, as well as the whole of lumbar region; severe pain in occipital region, and in spinal nerves, radiating from tender parts of spine to shoulder and sides quite to end of spinal nerves in front; a little walking quite prostrated her, and intensified her suffering. She was treated with the mild galvanic current every day for three or four months. She was so much relieved that she was able to resume her vocation as the business manager of a large household.

The galvanic current should, if possible, be always used in circuit, with a good rheostat, and a reliable milliamperemeter. Good instruments, and a thorough knowledge of their use, is no less necessary in electro-therapeutics than in surgery; and as no one form of current is suited to every case, it sometimes requires skill and judgment to select the proper treatment at the proper time. And now that many of the leading medical schools have established chairs for the careful training of students in this important branch, is at least a very strong indication that electro-therapeutics is established upon a lasting basis.

I have here, Mr. President, a few special electrodes, which may be of interest to the Society.

This electrode is a new one, for the hydro-electric applications of the constant current, and was introduced to the profession by its originator, Dr. Margaret A. Cleaves, of New York, in an article published in New York *Medical Record*, August 25th, 1894, where her article will be found, giving cut, and full description of the instrument, and the cases for which she has used it. It is a combination electrode, lined with carbon, so that either pole of the battery may be used without corroding the conducting material. When complete, as it comes from the makers, it looks like a vaginal syringe nozzle, with shield and return flow; and so it is, with the addition that it is also an electrode. The vagina is filled with fluid, medicated or not, and with an indifferent electrode upon the abdomen or back, the current is turned on; and as the fluid forms the internal electrode, and no metal in contact with the mucous membrane at any point, any amount of current may be administered that is desired without injury to the tissues. And as the vagina is fully distended with the fluid electrode, all parts of the pelvic cavity are brought more fully under the influence of the current than by any other method. When Dr. Cleaves showed me this electrode, she assured me that she had treated with greater success by this method, than by any other, cases of pelvic exudates, ovaritis, vaginitis, simple and specific, pruritus vulvæ, and eczema of the vulva. And to me her claim seems reasonable. With the shield removed, we have a simple nozzle electrode for rectal injections of simple or medicated fluid, and the treatment of intestinal obstructions, and rectal disease, after the method of Mons. Budet, of Paris.* "This instrument has three tips, of different sizes; the smaller and larger tips are perforated at the sides for vaginal use; the medium-sized tip is perforated at the side and end for rectal applications."

Dr. Cleaves also showed me a female catheter electrode, made upon the same principle, and for similar use in the

* From Dr. Cleaves' article in *Medical Record*, August 25, 1894.

bladder. The male catheter electrode that I have here is made upon the same principle.

These instruments were made for me by the Jerome Kidder Manufacturing Company, of New York; and when these were sent to me, I was informed that in future they would be kept in stock.

This other instrument is an invention of my own, to the best of my knowledge, if it can be called an invention. I have never seen or heard of one just like it, or to be used for the same purpose. But, if any one should claim to have first suggested such an instrument for such a use, he is welcome to the honor. As you see, it is only an ordinary urethral sound of hard rubber, with a metal electrode three-quarters of an inch long, forming the end of the instrument, the metal being flush with the hard rubber above it. Three-quarters of an inch above this lower electrode is another of the same length, but larger, and bulges out from the hard rubber staff, forming the upper or bulb electrode, which is No. 17, of the French scale, while the lower or flush electrode is only No. 13, of the same scale. Separate wires, insulated from each other, run from these electrodes through the staff to each side and end of the broad, flat handle, where metal-lined sockets are arranged for connection with rheophore tips, forming a bipolar electrode for treating the prostatic urethra. In cases of irritable prostate, this electrode, with the faradic-current of high tension, often gives great relief. And in cases of impotence, accompanied by an anæsthetic condition of prostate, this instrument, with coarse wire and slow interrupter, restores sensation more quickly than anything that I have ever tried. The smooth end passes through, the bulb stops at upper end of prostate, thereby bringing the gland immediately between the poles.

There is an instrument similar to this, called the bipolar uterine electrode, but in this instrument both poles of the electrode is flush with the staff.

It is hardly necessary to add, that these bipolar electrodes should never be used with the galvanic current. Again, I would add, that my bipolar prostatic electrode would be

most useful in paralysis of the sphincter muscle of the bladder, whether from local or general causes.

This instrument was made for me by Messrs. Waite & Bartlett, of New York.

I have a few little instruments here that are not new or novel, and are only interesting from the fact that they were made by me in my office from odds and ends, as my necessities demanded such instruments from time to time. I will not add them to my already long paper, but with your permission I will briefly explain their uses. The first is an instrument for detecting the motor centre in operating on the brain; it has been used twice quite successfully. The second is a magnetic needle for extracting small pieces of steel or iron from the eye. These are both insulated by handles of hard rubber, made from an ordinary thermometer case. The third is an instrument for detecting and treating anæsthetic areas upon the surface of the body, with the high tension faradic-current. The fourth is a soft brush electrode, made from old tinsel cord rheophores that have outlived their former usefulness. The fifth is an electrode, made from the glass part of an ordinary nipple shield, used for driving medicated liquids into the tissues with the galvanic current by cataphoresis.

These instruments I have found very useful, especially the brain electrode, which was thoroughly tested in the last two cases in which I assisted Dr. James Kerr in detecting the motor centres, while operating upon that region of the brain.

The skin electrode I use frequently, and feel that it has become almost a necessity.

1913 *I Street.*

To relieve the pain and burning in both acute and chronic cystitis.

R_x.—Antikamnia and Salol Tablets, āā grs. v.

Num. 24.

Sig.: One every three hours.

ART. VI.—Multiple Infection of the Newly Born.

By A. K. BOND, M D., of Baltimore, Md.,

LECTURER ON DISEASES OF CHILDREN AND DISEASES OF THE SKIN, BALTIMORE
MEDICAL COLLEGE.

Some years ago, I attended in confinement a young wife of good character, who had been greatly prostrated by domestic anxiety. The delivery occurred before I reached the bedside, or just as I reached it, no previous vaginal examination having been made. The child was well formed and healthy in appearance. A slight perineal tear was found, but otherwise no evidences of trouble in the parturient tract were observed. The preceding labor had been apparently normal in every respect, both that and this having had occipito-anterior positions of the presenting head.

During the first week after labor, slight suppuration was observed in the child on the conjunctiva, and also about the vulvo-vaginal tract. These suppurative processes yielded in a few days to cleanliness and a solution of borax of the strength of eight grains to the ounce of water. I was very much puzzled to know whence this infection arose, as the nurse was unusually clean and careful; I myself had no consciousness of any error of asepsis, and the mother, with a temperature hardly above normal, seemed to be doing perfectly well.

On the ninth day after labor, the patient began to complain of a dull pain in the sacral region, and her temperature went up to about 102°. Believing that there was sepsis somewhere, but having reasons for unusual anxiety in the conduct of the case, I consulted at once a leading gynecologist, who made an examination with the speculum (the perineum having refused to heal), and found an ulcerative process in the cervix, which was beginning to involve the endometrium in septic inflammation. The suppuration had probably arisen in an old cervical laceration, which was left by a former labor. Under daily moppings of the uterine cavity with bichloride solutions, the ulcerative process and septic infection of the endometrium speedily subsided, and the perineum then healed of its own accord. The patient has since shown no sign of uterine disease. The child is quite healthy.

Here, then, was a case of pus-cocci infection of both eyes and vulvo-vagina in the newly born, showing itself during

the first week, while the infecting source, an old laceration of the cervix, was still quite unsuspected, and manifested itself in symptoms only on the ninth day.

On October 1st, 1894, I first attended a young wife who had lost several children, either through premature birth or within a short period after normal parturition. At her last confinement, the birth seemed normal, but she nearly lost her life through violent emesis, which began a few hours after labor and lasted one or two days. The only suspected cause of the emesis was severe after-pains.

Desiring to place both mother and foetus in as healthy a condition as possible, I persuaded the mother, during her pregnancy in 1894, to take wild cherry bark tea after meals almost daily for several months. She came to confinement in excellent general health and fair spirits. The first and second stages were normal, except that the anterior rim of the cervix was driven down for some distance, much congested in front of the head, which was in right occipito-iliac anterior position. There was no perineal tear. Placenta was expressed by Credé method. The uterus tending to relax and form clots, I syringed vagina with a clean syringe of my own with hot water; and, ergot being vomited, gave fluid extract ergot 5j hypodermically. This, with kneading by hand on abdomen, checked the tendency to hæmorrhage, but a small clot formed now and then during lying-in. Placenta and membranes seemed intact. The child was from the beginning tended by its grandmother, a skilled monthly nurse, being washed and dressed before the kitchen fire, while the mother was cared for by a careful hired monthly nurse; so that the one could not have infected the other at any time after tying of the cord.

About the third day after birth, the child's conjunctivæ became slightly inflamed; not so severely but that it could open the lids, and a little pus was secreted. This conjunctivitis was easily controlled by a borax wash, 8 grains to the ounce of water. About the fifth day after birth, the grandmother told me the cord, which she had carefully dressed with clean vaseline, was smelling foul. I found it very offensive, with slight suppuration at its insertion. I cut it largely away, and, after soaking the stump thoroughly in strong bichloride solution, dusted with iodoform and tied with a fine silk ligature. There was but little further suppuration, and in a few days a clean healing navel was presented. About the eighth day after birth, the child's vulva began discharging, not so much pus as a brownish fluid, which

seemed to come from the deeper parts of the vestibule. The labia majora had been somewhat puffed from the day of birth. These parts were carefully cleansed with borax solution and dusted with iodoform, but did not return completely to normal for about two weeks. During the first week after birth, numerous pustules, about one-twelfth inch in diameter, appeared upon the back of the shoulders and neck of the child, which had the appearance of simple "pus-infection" lesions and lasted a week or so, healing under cleanliness and compound talcum powder.

The mother's condition during the first week of confinement seemed excellent. There was no emesis of moment, not more than about a degree of temperature rise, natural lochia, comfortable sleep, fair flow of milk. Uterus was well contracted, no pain present, more than with an occasional uterine contraction. One or two carbolized injections only were used, with a clean syringe. Eight days after delivery, the lochia, which had now almost lost their red color, were reported to be offensive. I examined with the speculum, and found a bluish ecchymosis on the outer surface of the swollen anterior lip of cervix, an old cervical laceration, and an unwholesome discharge. I mopped the canal with bichloride solution after washing out the upper part of the vagina with the same. On the ninth day after delivery, the discharge, brownish and foul, from the endometrium being more free and not removable by the method described, I called in as consultant the same gynecologist as in the case first described in this paper—this because it was evident that uterine sepsis was advancing, although the temperature in mouth was only 100.5° , and the patient felt quite comfortable, and was suckling her babe abundantly. The consultant diagnosed old lacerated cervix and new septic endometritis, suggesting that the latter was the result of the former. He introduced a very large trivalve speculum, tilting the fundus backward on a level with the cervix; and passing the long nozzle of his hard rubber uterine syringe again and again up to the fundus, washed out the cavity of both fundus and cervix with a bichloride solution until it flowed out clear and pure along the nozzle into the speculum. The vagina was now dried, some aristol was blown over the cervix, and a carbolized solution was thrown into the vagina twice daily by the nurse. Repeating this treatment once a day, I found that after two days there was no longer any odor to the uterine discharge, the temperature falling to 99° and pulse softening. This treatment was re-

peated daily, or every other day, until the end of the fourth week after delivery, when there was no discharge on passing the syringe-nozzle to fundus, and no other sign of disease except the old tear and a slight mucous rope. In the last few applications, a strong borax solution was used instead of the bichloride. The patient felt braced up after each treatment, and has since been stronger and felt better than for years. The child, now three months old, is healthy and very robust—wholly breast fed.

I am strongly persuaded that in this case the eyes, the umbilicus, the vulva, and the skin glands of the shoulders of the child all received infection by septic matter from the old lacerated cervix of the uterus during birth. That this was not active gonorrhœal matter, is shown by the readiness with which its virulence was overcome in the child by simple borax washes. Although it may have originally been a gonorrhœal infection of the maternal cervix, it was now but simple infection. The cases quoted by me show that even a severe septic process, while limited to the endometrium, may not produce marked constitutional symptoms.

In conclusion, I would venture to enforce the lesson taught by these cases, that *multiple infection of the newly-born, when it cannot otherwise be accounted for, points to septic processes in the parturient canal.*

If this be so, is it not wise in such cases, even though the mother as yet shows no plain signs of sepsis, to make a thorough examination with a large speculum, and by cleansing any unhealthy surfaces to endeavor to prevent infection of the cavity of the fundus, and, later, of the Fallopian tubes?

889 Park Ave.

The Railway Surgeon,

The official organ of the National Association of Railway Surgeons, is a most excellent journal, published in Chicago. Every surgeon in any way connected with a railway should take it. Dr. R. Harvey Reed, its former editor, resigned January 1st, 1895, to assume like duties in the American Academy of Railway Surgeons.

ART. VII.—Report of a Case of Hydrophobia.*

By CLIFTON MAYFIELD, M. D., of Washington, D. C.

Since the time of Celsus, and perhaps an earlier date, hydrophobia has been recognized as a distinct disease, originating in the canine species—at times *de novo*—and more properly named rabies, for in them fear of water does not exist, and capable of transmission by inoculation from them to other lower animals and to man.

The specific virus, which exists mainly in the saliva and the central nervous system, is probably due to micro-organisms and their resulting toxins.

Season and climate seem to have no particular bearing upon its prevalence. The most dangerous points of inoculation are undoubtedly the exposed parts of the body, notably the face; 90 per cent. of those bitten upon the face by rabid animals were infected; while wounds upon the hands and upon the clothed parts of the body, resulted in the disease in 53 and 24 per cent. respectively.

The period of incubation varies greatly. It is seldom less than 18 days, though, I find one case recorded in which it was only four days. In by far the greatest number of cases, this period lasts from four to ten weeks, but it may be prolonged to six months or even one year. Still longer periods of incubation are recorded, but in such, there is certainly reason to doubt either the genuineness of the case, or the freedom from more recent inoculation.

The general symptoms are vague. • Chilliness, general malaise, headache, diminished or lost appetite, nervousness, restlessness, loss of sleep, marked thirst, elevation of temperature and increased heart action are about the sum total of the evidences of disturbance during the first few hours. Soon it is noticed that the patient, in spite of great thirst, is disinclined to drink, by reason of the, at this time slight, spasm of the pharynx, which the attempt causes. There is

* Read before the Medical and Surgical Society of District of Columbia, December, 1894.

injection of the face and eyes, with sometimes dilatation of the pupils; respiration is accelerated and at times yawning or sighing; frequently there is nausea and vomiting and almost invariably the bowels are obstinately constipated. Sleep is disturbed by dreams.

After several days (one to three) of these premonitory symptoms, spasms of the pharyngeal and respiratory muscles supervene, and thereafter the sight of water, or even of any vessel that brings to mind a thought of liquid contents, or the sound of dripping or running water, is sufficient to bring on the paroxysms. Sudden noises and currents of air produce like results. In some patients at this period it is only the sight or thought of water that will produce these spasms, while milk, medicines and other liquids can be quite readily taken. Accompanying the pharyngeal spasm there is extreme dyspnœa with gasping respiration and a shrill cry, evidently due to terror and suffering. There is also hyperæsthesia, exaltation of the special senses, and general clonic spasms, during which the face exhibits the most intense suffering. Being unable to swallow, the patient relieves himself of the accumulated mucus by spitting in every direction. As the case progresses the hyperæsthesia increases, and the slightest noise or touch, or the approach of light is sufficient to precipitate a paroxysm. During an attack the patient may become maniacal, snapping and biting and otherwise assailing those about him. In the intervals there will be shown no evidence of disturbed mental action and he will apologize for his violence during the attacks. Sometimes, but rarely, the delusions are continuous. The convulsive stage is said to be more severe in men than in women or children.

The patient may die in an attack from apoplexy, suffocation or exhaustion, but usually the convulsion is followed by the paralytic stage, which lasts from one hour to one day.

The spasms become weaker; sensibility is lessened; and muscular meakness and prostration become extreme, passing into extreme coma and death. In some cases there is a partial or an entire absence of the paroxysmal stage, but

the disease under such circumstances is none the less fatal. The diagnosis in the convulsive stage is usually not difficult.

The absence of tonic spasm of the trunk and jaws excludes tetanus. Epileptic convulsions do not recur with such frequency and are not excited by the sight of water, by noise nor touch, and the spasms are more general, with complete loss of consciousness. Hysteria may be detected by the irregularity of the symptoms, and negatively by the absence of many of the important manifestations of hydrophobia.

The condition most difficult of differentiation from the true disease, is one occurring in nervous persons who have been bitten and in whom fear of the disease produces a train of symptoms almost identical with those occurring in hydrophobia; so profound indeed may be the impression upon the nervous system that death may ensue. In this condition, we find that the outbreak has usually followed conversation upon the subject. Treatment directed to allaying the apprehensions of the patient, and proper diversion of the mind, by producing amelioration or disappearance of the symptoms, will do a great deal toward clearing up the diagnosis.

The case that I wish to bring to your notice is that of a child three years and nine and a half months of age. While visiting another member of the family on the morning of November 11th, 1894, my attention was called to the condition of this exceptionally bright little girl. I had seen and talked with her the day previous, and she appeared to be in perfect health; and indeed the parents assured me that she had never been sick before. Her family history, as far as tubercular or nervous troubles were concerned, was good.

This important item of personal history I did not obtain until a day and a half later, namely, that on the 13th of September last, while near her home, she had struck, with a switch, at a dog that was running by, and that the animal had leaped upon her and had bitten her on the nose and forehead; then, being attacked by another dog, the assailant ran away. The wounds bled moderately and were cauterized thoroughly, about an hour afterwards, with nitrate of silver, and the parents gave no further thought to the occurrence. When my attention was first called to the fact,

all evidences of the wounds upon the face had disappeared, but the discoloration from the caustic was still plainly noticeable within the roots of the hair.

On the morning of my first observation the mother assured me that the child had slept fairly well during the night preceding, but that at breakfast, she had declined to eat anything, and would only drink a glass of milk, which she soon after vomited. She complained of severe frontal pains, was listless and would lie down upon the floor or bed, but did not remain long in one place.

The tongue was slightly coated and the bowels constipated. There was frequent retching, but no further vomiting. She had marked thirst, and drank water greedily and often. Her voice was slightly thick, as if from enlarged tonsils, but examination showed only a congested pharynx with scanty secretion of mucus. The temperature was appreciably elevated, and the pulse full and about 120. Respiration was slightly hurried, but regular. The eyes appeared watery but were not injected.

I did not see her again until the evening of the following day, at which time there was no material change in the character of the symptoms. The fever had subsided, but the pulse rate was increased to 140. Complaints of pains in the head continued, and she was more nervous and restless, wanting to be held, and to be carried from place to place. Speech was thicker, but of the same character as upon the preceding day. Respiration was the same. She had slept well up to midnight, after which she did not sleep at all.

At 1 o'clock A. M. of the 13th, I found her sitting in her mother's lap, wakeful and exceedingly nervous. Speech while distinct, had assumed a nasal character, similar to that heard in paralysis of the soft palate. She had not touched food or drink during the whole of the previous day. When urged to drink, she would push the glass away from her with evidences of fright, would bury her head in her mother's arms. At the same time I could detect but the slightest indication of respiratory spasms, the catch in the breath sounding more like the sob that follows a crying spell, but not so pronounced. The next morning at ten she appeared to be slightly better. She had taken her medicine, a solution, readily since my last visit; was less restless; and did not make the same complaints of pain in the head; but she did complain of being "sick in the neck," and of pains in the hands and arms. The left eye was congested and she rubbed that part frequently and said there was some-

thing before it, so that she could not see clearly with that eye. The pupils of both eyes were moderately dilated, reacting slowly to light. The mucous membrane of the tongue, mouth, and pharynx, was of a purplish tint, the latter especially, being covered with a thin coat of mucus.

Examination of the throat met with much resistance and evidences of terror, and could only be accomplished after considerable persuasion, and then, almost before a fleeting glimpse could be obtained, the spoon was thrust violently away, and for the first time, spasmodic inspiratory acts were observed, which I can best liken to the effect produced upon myself by a sudden plunge into cold water. Inspiration was made up of a number of quick, jerky and ineffective inhalations terminating in a condition of fixation of the chest, lasting several seconds, during which the face would become purple. The inspiratory efforts were attended by a croupy noise and were followed by prolonged and sighing expirations. At this time, this spasm of the respiratory muscles was not very marked. Later in the day it became very severe. From this time until death, the symptoms rapidly increased in severity. The eyes, at first congested, later assumed the glassy appearance that we see in the dead body; by 7 o'clock P. M. sight was lost in the left eye, the right becoming affected several hours later. Up to 6 o'clock P. M., she sat in bed or on her mother's lap. She was exceedingly peevish and kept those about her busy in their attempts to comply with her numerous demands. She was very nervous, starting suddenly at slight noises, and she picked frequently at her toes in an aimless manner.

When carried in the arms, she would grasp tightly the neck of the one holding her, as though apprehensive of falling, and when any sudden turn or movement was made, the entire muscular system would contract convulsively, and she would soon demand to be replaced in bed. The same condition was observed at times when she moved in bed, and especially when angered at any failure to promptly comply with some of her numerous demands; these attacks were accompanied by a few quick gasps. The head was held slightly to the right, and there were frequent involuntary discharges of urine. Upon being offered a glass of water, she would, in terror refuse it, and when further urged, would seize the glass, make a motion as though to drink, then violently forcing it away would exhibit the distressing respiratory spasm and livid face already described. A

spoon, an empty glass or even the suggestion of these things to her would bring forth a shrill cry and the paroxysm.

The skin was cool, the forehead bathed in moderate perspiration, and the pulse rate increased to 180. She talked almost incessantly but speech was scarcely intelligible. An hour later she ceased to sit up, but wanted to be carried in the arms and to be walked, and there was almost constant though slight spasmodic twitching of the legs. By 11 o'clock P. M. this leg movement had increased and was more frequent in the left than in the right. It was not an irregular jerking about of the limb, but an alternating movement of flexion and adduction and extension and abduction, the legs being crossed and but one leg moving at a time.

Consciousness was retained and she signified her recognition of the voices of those addressing her, and holding her hands seemed to afford her some decided satisfaction.

Spasm of the respiratory muscles now came on without apparent exciting cause, and were accompanied by a most distressing cry like that uttered by a dumb animal in great pain.

Respirations were 70 per minute and entirely thoracic, marked recession of the abdomen being observed during inspiration. The pulse was so feeble as scarcely to be felt, and, as nearly as could be estimated, 210 per minute. Blindness was complete, the eye-lids never moving, the pupils dilated, and the eyes fixed and glassy. I saw the child for the last time shortly before midnight, and she expired at 1:15 A. M. November 14th.

The account given me by those in attendance is that, about midnight, muscular spasm began to lessen and rapidly disappeared; breathing became slower and more quiet, and she fell into what they supposed was a natural sleep, lasting about one hour; suddenly there were a few convulsive efforts at respiration, and death had released the sufferer. This supposed sleep, I am convinced, was simply the final or paralytic stage of the disease, with its attending coma.

At no time were there any tetanic convulsions. Early in the evening the head was perceptibly held (or drawn) to the right, but only when she sat up; and, as the sight in the left eye was at this time almost or entirely lost, I believe the position was only assumed for purposes of better vision. As late as 6 P. M. of the 13th, the mouth would be freely opened and the tongue protruded when the request was

made, provided there was no attempt to introduce anything into the mouth.

Hyperæsthesia was not very marked. No food or drink was taken after the morning of the first day, except a few doses of medicine and perhaps two mouthfuls of water, any effort in that direction invariably bringing on spasm. The introduction of the syringe and the flow of the liquid into the bowel produced but slight convulsive movements until about two hours before death, when it was followed by very marked general spasm and a shrill cry.

It will be noted that the period of incubation was within a few hours of 58 days; and, while I cannot absolutely fix the hour of the outbreak, it was probably not more than three days, beginning sometime after midnight (the morning of the 11th and ending at 1:15 A. M. November 14th).

Dr. Lewis Mackall, Sr., saw this child in consultation with me, and remarked upon the absence in this case, as in one of his own, reported to the District of Columbia Medical Society, and published in its *Transactions* for 1874-5, of the violent spasmodic seizures that occur in the adult.

A case occurring in Chicago but a few weeks ago, a brief account of which, given in a letter to the father of my patient, is now before me, also bears out the statement that the general convulsions are not as severe in children as in adults. In the case referred to, the child was bitten on the left cheek, and the wounds were thoroughly cauterized and healed readily. Two weeks later, at dinner, the child was restless and would not eat, and later vomited. At night, when offered water, he in terror refused it. Sleep was broken, and the child was restless and exhibited unusual timidity. He also complained of something in his eyes, so that he could not see clearly. He talked incessantly but intelligently. The spasm of pharyngeal and respiratory muscles continued, but there were no general convulsions until two or three hours before death, and these were controlled by chloroform. The active stage lasted three days.

I need not consume much of your time in considering the treatment. The indications are for the most absolute rest that can be enforced, and the use of drugs calculated

to control spasm. This was the line of treatment pursued in my own case. Chloral by enema and morphia hypodermatically are, I think, the best, with chloroform as a last resort when the general convulsions are marked.

As to the merits of the Pasteur system of inoculation in the prevention of the disease, I feel myself unfitted to speak. It seems to me, however, that when there is any suspicion of infection, inoculation should be tried rather than wait until the disease appearing destroys all hope.

Prof. Murri, Director of the Pasteur Institute in Bologna, claims in one case to have cured a patient of paralytic hydrophobia by intravenous injections of spinal cord emulsion, when the disease had developed in spite of subcutaneous inoculations.

1335 *Thirtieth St., N. W.*

ART. VIII.—Trional as a Hypnotic.

By M. A. CLARK, A. M., M. D., of Barnesville, Ga.

“What can I take to make me sleep?” is a question often asked the busy practitioner, and equally as often is he at a loss to know what to prescribe. Not that we do not know what will produce sleep, but that we have not yet found that remedy which will give sleep without any unpleasant sequelæ.

The bromides are unreliable and injurious; chloral is badly borne by many and is dangerous to all; sulfonal bade fair to supply the long felt need, but it, too, is found wanting, being uncertain and not wholly free from danger; similar objections are found to chlor lamine and other preparations.

In our efforts to produce a sweet, refreshing sleep, how often have we wished for a safe and reliable hypnotic.

Coal tar, in the hands of the German chemist, has given us a new hypnotic that seems to meet this long felt want. Like others of those derivatives, it is mystified by a long

chemical name, but we know and prescribe it as trional. It is a white crystalline powder, sparingly soluble in water, but freely soluble in alcohol and ether. It may be given in powder or capsule, but takes effect more readily when given in hot water, milk, or broth. I do not know exactly how it produces sleep, but, judging from its very prompt effects, it must act directly upon those brain centres that preside over sleep. I *do know*, however, that it *does cause sleep*, and that without harm to my patient, and therefore I do not hesitate to prescribe it whenever a hypnotic is required. Its high price is an objection, but I hope it will soon be reduced to that price that will place it within the reach of both poor and rich.

As a proof of its hypnotic effects, I offer briefly a few of a number of cases in which I have used it, and the manner in which I employed it:

Miss L. D.—Chronic nephritis.—Had not slept any for weeks, except in little naps produced by opiates. I prescribed trional 10 grs. half hour before and at bedtime. Patient slept five hours, and, after three nights' use, slept all night, from effect of two powders taken as above. She complained of no unpleasant effects. Although it was necessary to continue the use of the drug several months, patient now feels no desire for it at all, showing no tendency to cause habit.

Mrs. S—Chronic gastritis, with functional heart trouble. Complains, especially at night, of irregularity of heart; alarms her so that she cannot sleep. Becomes very restless and nervous. Trional 10 grs. at bedtime causes sweet, refreshing, dreamless sleep, without any bad after-effects. Heart is always more quiet and regular after taking it. If she neglects to take trional at bedtime, and becomes restless and nervous, one dose quiets and produces sleep. As soon as gastritis is improved, leaves off trional, with no ill-effects.

Mrs. V.—A young mother.—Complains of no pain, but is nervous and unable to sleep. Trional, 10 grains half hour before and at bedtime, causes refreshing sleep and hastens very much the recovery of the patient. Occasionally a third dose is required in one hour after second. Left off trional as soon as well, with no desire for it.

Mrs. H.—Muscular rheumatism.—Antirheumatics relieve pain, but do not produce sleep. Trional, 10 grains repeated

in half hour, and again in one hour, gave the much-needed sleep. When the pain was not controlled, the trional failed to produce sleep, but when pain was absent sleep always came.

Joe V.—Infant—Eight months old, anæmic, bottle-fed, stomachic and intestinal indigestion. Sleepless, restless, and fretful, especially at night. Bromides, 5 grains every two hours, failed to produce sleep. Gave trional, 2 grains at 6, and 6:30 our babe slept soundly during night. Occasionally the third dose was required. No ill effects followed its use.

Col. M.—Intermittent fever.—Very nervous and restless, especially during intermission; would toss all night, sleepless, even though fever was controlled by phenacetine. Trional in 10-grain doses, as already mentioned, gave refreshing sleep, and added much to patient's recovery.

I have relieved insomnia in dyspeptics, overtaxed school-girls, and others with equal satisfaction. Not even in one of them have I ever found any unpleasant results or any tendency to continue to use the drug, although I have watched carefully for both.

I use it in all diseases, and with patients of all ages, where a hypnotic is indicated.

It produces sleep in a very short time, some becoming drowsy within twenty minutes after taking it.

It is recommended to be given in larger doses, but I have not found it necessary. I think it is better to use small doses, more frequently repeated.

With such results as these, I can but feel that we have at last found a true and harmless hypnotic; and I unhesitatingly commend it to those who wish such a remedy.

A Friend Writes—

“When the complicated nervous system becomes disordered, the experienced physician is often puzzled to know what causes the disturbance. When the brain is the offending organ, exhibited by diminished power of attention, faulty memory, incapacity for mental work, frequent but irregular insomnia, with depression of spirits, and irritability of temper, the *Elixir of Six Bromides* (W-G's) is of great therapeutic value; and when attended with feeble digestion and debility, the *Elixir Six Hypophosphites* (W-G's) is a valuable adjunct remedy.”

ART. IX.—The Salicylate Treatment of Rheumatism.*

By JOHN W. SHAW, M. D., of Washington, D. C.

One of the most perplexing questions I am called upon to decide when meeting with a case of acute rheumatism is, Shall I try the salicylates or not? For I know of no method or symptom by which we may determine beforehand whether this class of drugs is going to be beneficial or not, except by actual trial, which, if unsuccessful, costs the patient several days delay, unsatisfactory appreciation of our efforts, and frequently a change in the medical adviser. I say several days' delay, because I believe it is the general experience of the profession that, unless pronounced benefit be derived within three or four days, it has been found useless to continue the drug longer.

I have no doubt you will all agree with me when I say, this class of drugs converts more believers in its ability to do good in the early stages of an acute condition than in any other phase of the disease. I feel sure many physicians will answer my question in favor of the salicylates, and I will admit that salicylic acid produces reduction of the fever, and in some instances the febrile process under its influence persists only two or three days, the pain subsides, and the swelling of the joints in the articular form is lessened. So that we may consider, on general principles, that the important symptoms of acute rheumatism have been relieved. But, on the other hand, I have seen numerous cases in which the pain, joint symptoms, and fever resist all doses of the salicylates which may be given within the limits of safety; so that it becomes a question with me whether I prescribe it as a routine treatment or whether I adopt one of the various other methods, and only use the salicylates as an adjunct, and not as my sheet-anchor in the treatment of this affection. There are physicians who are able to quote large statistics, and with wide clinical expe-

* Read before Medical and Surgical Society of District of Columbia, December, 1894.

rience, who will state that they believe the general confidence in the value of the salicylates in acute rheumatism is not justified by the results which are obtained by its administration.

Bearing in mind the normal and morbid physiology of the animal organism, the salicylates have several useful actions, but also a number of injurious ones. They are useful in certain morbid conditions, because they retard microbic growth, lessen certain pyogenic processes, and promote nitrogenous secretion; but, at the same time, it must not be forgotten that they hinder the action of all enzymes of the gastro-intestinal tract; they are irritating to mucous membranes, and produce nausea and loss of appetite not only by irritation, but also by interfering with the digestive ferments; they derange cellular metabolism, irritate the kidneys, and in large doses depress the action of the cardiac and respiratory mechanisms. Grave cases of albuminuria and hæmaturia have been reported from their administration; hence the necessity of using it with great care in kidney affections. This class of drugs may be clearly indicated in many of the various forms of acute rheumatism, and if the patient is strong enough to withstand the damage to digestion and the other organs, they are undoubtedly of great service; but if the patient is pale, anæmic and emaciated, I prescribe them with great fear and reluctance, lest the vital processes are unable to stand any further depression.

As you know, this drug is largely eliminated through the kidneys, but it is also partly eliminated through the salivary, gastric, and intestinal glands, and it is possible that its action at this time is a factor in producing the nausea and loss of appetite I have referred to, and which is certain to accompany its exhibition for any length of time.

All preparations of salicylic acid and its derivatives, according to the best authorities, are absorbed in the form of a salicylate of soda, and it probably circulates as such; but chemistry tells us that, while it remains as a salt, it cannot act, as only the radicals of a compound act; there-

fore, it must somewhere be broken up into its component parts before it can be of service to the economy; and it may be that at this point, through some individual peculiarity, the necessary chemical change or decomposition is not brought about, and, in that event, it would explain why the drug, with apparently the same conditions existing, is so markedly beneficial in one case and so absolutely useless in another. Probably the more plausible, and certainly the more satisfactory, explanation of its capricious action lies in its absorption from the intestine; here the amount absorbed, according to the experiments on the lower animals, depends upon the quantity of pancreatic secretion present in the intestine. This is especially true of the derivative salol, or, chemically speaking, the salicylate of phenol, which is totally insoluble in the gastric juice; but, after entering the alkaline duodenum, it is broken up into salicylic acid and phenol. After tying the pancreatic ducts of dogs and administering salol, it was found to pass from the body undissolved, thus demonstrating from this experiment a direct proportion between the quantity of pancreatic secretion and the amount of salol absorbed.

This has led me to suppose that, in those cases where the salicylates exert little or no influence, to accompany their administration by generous doses of pancreatin, and by rendering the stomach alkaline, we can secure absorption throughout the entire gastro-intestinal tract, and probably exert some curative measures through the simple alkaline itself.

Lately, I have been in the habit of prescribing a powder of equal parts of salicylic acid and bicarbonate of soda, which serves the double purpose of making a rather pleasant effervescing draught upon the addition of a little water, and keeping the stomach in an alkaline condition, which, as I have said, facilitates the absorption of the salicylate of soda from that organ, providing the quantity of soda is sufficient to neutralize the acid of the stomach, and enough remains to unite with the salicylic acid and form a salt of soda.

I have not yet had a sufficient number of unyielding cases on which to try the pancreato-salicylic treatment or to base a calculation as to its merits; but if the pancreatic secretion plays such an important role in the treatment of acute rheumatism, hence the necessity of supplying it artificially, as the pyrexia accompanying the rheumatism tends to decrease all glandular secretion. It is supposed by some that the way it acts in articular rheumatism is that the carbonic acid in the tissues liberates the salicyl from the soda, which, then in its nascent state, acts as an antiseptic. The only basis for this theory consists in the fact that, by passing carbonic acid gas through a solution of phosphate, carbonate and salicylate of soda, agitating with ether, separating and evaporating the latter, crystals of salicylic acid are obtained.

In view of the studies of Haig, and those of other investigators who have not been so thorough in their method of research, I am inclined to believe with them, that this class of compounds, uniting with the uric acid, produces salicyluric acid, which is readily eliminated, and so directly or indirectly results in an improvement of the rheumatic symptoms.

There are certain complications which are so frequent, and occur so early, that they may be considered as symptoms, or a distinct part of the disease—namely, the appearance of cardiac manifestations due to the action of the rheumatic poison. Of course, it is true, when salicylic acid shortens an attack of rheumatism it indirectly protects the heart, but at the same time there is no evidence that it protects this organ from the actual presence of the disease process. In other words, it may prevent cardiac disease indirectly, but its administration in no way preserves the cardiac apparatus intact, while the febrile symptoms last. This has been pointed out in a number of standard works on medicine, and should be universally recognized by the profession, even though all its members may not be willing to admit that the statement is entirely true.

Hood, of London, in the treatment of 2200 cases appear-

ing in both sexes under 36 years of age, noticed that there were a very large number of instances in which cardiac disease was produced. Thus of 828 cases treated without salicylates, 500 had cardiac disease, whereas in 328 cases treated with salicylates, 100 had cardiac disease; or again, of 360 cases treated with salicylates, 241 had complications; and in another series, 316 suffered from cardiac disease, out of a total of 515. In other words, in the cases treated by salicylates, the aggregate of cardiac complications was somewhat over 60 per cent., while those who were treated with other measures had cardiac complications in a little less than 60 per cent. It is therefore evident from this experiment, that the salicylic compounds are no more effective in avoiding these unfortunate manifestations of the rheumatic poison, than are the various other modes of treatment. This point is emphasized by the fact that the percentage of cardiac diseases in cases treated by the salicylates is about the general percentage of cases, namely, between 50 and 60 per cent. It is also true that relapses seem to occur more frequently under the salicylic than under the older methods of treatment; perhaps because when the older methods are used, the disease runs its course, or, as it were, exhausts itself; whereas the salicylates may alter its course before the system is thoroughly rid of the rheumatic poison.

It was not my intention, in writing this paper, to try to rob the salicylates of any of their value, for if it were possible to select suitable cases, the beneficial results obtained would prove marvelous; but, as I say, at times I have found this class of medicines the most useful; and at other times, the most useless and disappointing drugs in the pharmacopœia, and until we have more light on the subject, our use of the drug will remain empirical, and will be continued to be used for the reason that others have used it with success.

In conclusion, I will add, that there are two points in regard to the use of the salicylates in rheumatism, which I think should be particularly emphasized: (1) that the physician, after once deciding to administer these remedies, should give them in large doses or not at all—that is, to use

no less than 40 to 80 grains during the day; (2) that after administering the drug in this way, if no amelioration of the symptoms has occurred at the expiration of four days, it is useless to continue this line of treatment, as little good will be exercised over the rheumatic process, and much harm will be done by saturating the patient with such irritants to the kidneys and stomach, as are the class of drugs I have mentioned.

908 *Fifteenth St., N. W.*

ART. X.—Hydrophobia.*

By OSCAR WILEY, M. D., of Salem, Va.,

EX-PRESIDENT AND HONORARY FELLOW MEDICAL SOCIETY OF VIRGINIA.

Upon the threshold of the consideration of hydrophobia, our thoughts turn instinctively to the obscurity of its pathology. This great want of light which has existed in regard to it for two thousand years, has diminished but *slowly*.

Whilst this is so, we ask the indulgence of the most sceptical of our hearers, while we examine some of the principal circumstances which have come to the knowledge of the profession respecting this terrible affection, from personal experience in its management and treatment.

The word "hydrophobia" has obviously been compounded to express the principal symptom of the disease now under consideration, and is always produced from the bite of an animal in the rabid state. It is never spontaneous; that is, the "known one form of hydrophobia" which we are now considering, of which the only constant known antecedent is the bite of a rabid animal—most usually by the bite of the dog, cat, fox, wolf or skunk, and most frequently in our civilization, by the bite of the dog; for the dog has been man's companion from the earliest antiquity. When the shepherds watched their flocks by day and night the dog was an indispensable adjunct, and assisted them in their

* Read before Medical Society of Virginia, October, 1894, during Session in Richmond.

pastoral labors. And although in the sacred Scriptures the dog is mentioned almost invariably with opprobrium and with everything impure and vile, and in the book of Exodus cattle mutilated by wild beasts, are ordered not to be eaten, but to be given to the "dogs," nowhere, however, in the sacred Scriptures is hydrophobia mentioned; hence we conclude canine madness was unknown in Syria and Egypt.

Very many futile attempts have often been made to change the term hydrophobia. To our mind, a more expressive one cannot be made, for the same recalls so readily and clearly the prominent, uniform and principal symptoms of the disease as to express at once the thing signified. Bardsley, to whom we are largely indebted for much in the preparation of this paper, says that hydrophobia was "recognized as a malady" "*sui generis*" from the earliest antiquity, that the Greeks recognized it, and that very ancient man who begged for bread at the gates of the very cities which afterwards contended for his birth, employed a specific term for the madness of dogs. (See Homer's *Iliad*, IX., 239.)

Plato called this direful malady by a name signifying a "prince of ungovernable fury." To show its recognition, *as a disease resulting from the bite of a rabid animal* away back in the centuries ago, we could call attention to, and cite the writings of almost innumerable authors, such as Hippocrates, who recognized it, and his definition of it, and of Africanus, and many others of the highest antiquity, for *they all recognized the disease*, and their writings of this malady contain few intrinsic misrepresentations, or inherent sources of fallacy at *that* early day, from the researches of more modern times. From this, it is clear, hydrophobia has been recognized as a direful disease for more than two thousand years. Bardsley says "mankind came to a knowledge of it in the enlightened period between the days of Aristotle and the foundation of the great medical school at Alexandria; *long after* the science of medicine had been freed from *superstition* by Democritus and Hippocrates, and

when the cities of Greece, Asia, Sicily and Egypt abounded with medical schools," and with professors of great erudition, such as we have no doubt would put to blush the pretentious pedantry of many medical philosophers (so-called) of the present day.

Coming down to modern times, Dr. Rush conceived it was a fever, or had relations to fever, (a fallacy, it has no such relations,) and will have it called "hydrophobic state of malignant fever;" whilst Dr. Good has attempted to restore the primitive Hellenic term, *lyssa*, by inscribing the disease "*entasia lyssa*," which is simply a redundancy of words, or, as my friend, Dr. Carson Wells, of Roanoke, would say, a pleonasm, and is therefore absurd. With all the profuse luxuriance of nomenclature, the term hydrophobia has always been, and still is, that by which this affection is distinguished by the best medical authors. It is not probable that it will ever be changed, and it ought not to be, because it is an expressive word, and a word that conveys the essential characters of the disease in the simplest terms.

Strange, after the known existence of the disease for two thousand years, and the *universal* persuasion and *testimony* of the people of *every country in the world*, affirming the *connection between the bite of mad dogs, and the same characteristic phenomena of spasm in the throat* and fear of drinking, there should be any "doubting Thomas" in this enlightened and progressive age. To doubt the existence of hydrophobia, is direct contradiction to all medical testimony for more than two thousand years.

And yet, passing strange as it may seem, there are some eminent physicians and surgeons of our day who deny the existence of the disease, and describe its symptoms as given by writers who have seen and attended this frightful malady, to causes *other* than the bite of a rabid animal. They utterly ignore the *antecedent cause*, and prefer to regard it as a phrenetic or maniacal affection, deriving its sole origin from the imagination of the patient. It is a belief, however, without scientific proof. That there are spurious cases, no one doubts. It is true, mere mental excitement directed

to the disease, especially when following *suspicious* bites, may so augment the patient's fears, that after a period of intense anxiety and solicitude, the nervous system is so wrought upon that he or she feels spasm in the throat, and difficulty of swallowing and dysphagia, or at least they imagine they do; their fears are intensified, the bad symptoms increase, and the medical attendant, if *inexperienced*, is perplexed, and sometimes deceived.

The writer may be pardoned for recalling a case in point.

Early in his professional life, he was summoned to attend a well educated, intelligent Virginia Senator, who had been bitten by a *cat*. He importuned us to treat him *vigorously*, for he felt sure, he said, he would have hydrophobia, of which, even at that very early stage (an hour after the bite), he said, *he had already had premonitions*. He would jump up every few minutes, and take a swallow of water, and pour water from the pitcher into a basin, to *test*, as he said, the reality of the thing.

The wound healed kindly and well; but for weeks and months, indeed, for nearly a year, we had *infinite trouble with him*; intelligent, well educated, accomplished, and strong-willed as he was, he would send for us often in the night-time, saying he felt as though he was going to have a hydrophobic spasm; and he would have illusions and delusions and evil forebodings, and would piteously hold up his thumb (the one bitten), and say, "*This is the Iliad of all my woes, and that cat bite will be the end of me yet.*"

I was young then, and did not have much professional experience, and at first thought I had a serious case; but carefully watching it, I soon had sense enough to administer strong tincture of assafoetida, which usually brought him round, and of which he never grew fond, and to treat him with some other simple remedy to tranquilize his mind, when he would get all right again, until something, however trivial, would upset him, some indigestion, or accident, when we would have a recapitulation of the same symptoms, and we would again "wrestle" with the assafoetida, sometimes *spiced* with valerian. He naturally tired of the prescription, and I finally convinced him his fears were groundless and his hydrophobia spurious.

He happily recovered from his fears and anxieties (for there was nothing else the matter with him), and later in life ridiculed and laughed at his almost delirious idiosyncrasy.

We have somewhat diverted from real hydrophobia to the *spurious*, simply to show the existence of *both*, and to try to indicate the *diagnosis* of the one from the other. In the true hydrophobia, to which our thesis has reference—"the known one form of hydrophobia, of which the only known constant antecedent is the bite of the rabid animal." Once witnessed, it ought never to be confounded with any other malady, and its diagnosis can be readily determined. Having been witnessed, it is more easily remembered than described. In hydrophobia the respiratory spasm is quite different from nervous or mental dysphagia of other maladies, and is *peculiarly pathognomonic of the disease*, and is real and persistent to the end. It is easily excited by every attempt to swallow liquids, even by a breath of air, the sudden opening of a door, the pouring of water, increasing hour by hour and day by day, with a wonderful secretion of saliva; this spasm increases until it resembles a convulsive action, and death ensues. We never observe the same train of symptoms preceded by any other cause. It is a disease "*sui generis*," and can only result from the bite of a rabid animal. However, some have regarded it as traumatic tetanus, resulting from the wound and the patient's fears. This is fallacious, for in hydrophobia the jaws are never locked, and few, if any at all, of its symptoms corroborate this opinion. The respiratory spasm, already referred to, is different, and is characterized by such violent spasmodic contraction of pharynx and air passages that death often results from asphyxia.

That the patient is the victim of his or her fears is equally untenable, for some of the victims are not amenable to fear, are mere infants, and cannot therefore be suffering from mere mental impressions. Others are idiots, some delirious, in either of which states are the sources of mental terror long kept steadily in view.

It is characteristic, too, of hydrophobia to intermit frequently, and in many instances. If the cause consisted in a deep impression of fear this could not occur.

Some argue, because the bite of a rabid dog is not *always* followed by hydrophobia, it is therefore never succeeded by

it. There is no accounting for the vagaries of some contagious and infectious diseases. Hydrophobia is no exception. Very many persons enjoy marvelous immunity from the inception of contagious and other maladies.

No known cause of disease whatever produces its effects upon every person to whom it is daily applied. Many escape. Their bodies are not easily impressible or susceptible to its influence; why it is so, it is hard to explain. Physicians say it is due to idiosyncrasy, which is an explanation which does not explain.

But the fact remains, that not even the exhalations of the pest-house or the foul emanations of the sewer, the contact with scabies, and even the inoculation of variola, will not invariably be productive of disease. And thus it is some individuals break the record. It is the *saliva*, and the *saliva alone*, of the rabid animal that contains the poison. This, entering the circulation, through the bite of the rabid animal, produces all the frightful sequences. It is, so to speak, a poisonous fuse, slowly smouldering, slowly burning, until it reaches overwhelmingly the nervous system and brain (the magazine, so to speak), when it explodes as a terrific volcano, and death ensues. Bardsley says all the credible cases on record occurred before (18) eighteen months expired after the reception of the bite.

And so distinctive is this period of incubation now recognized by the medical profession from instinctive impressions and conclusions of experience, that it is very generally believed no case of hydrophobia occurs *after* this limit, *without the infliction of a new bite*. This period of incubation, and its cause, are an interesting and a curious study to the scientific mind, but the obscure pathology of the disease presents a serious barrier across the pathway of explanation.

After much study and some experience in witnessing and managing two unmistakable cases of hydrophobia (as the writer thinks) and the careful and thoughtful perusal of many authors (especially Bardsley, from whom he quotes largely), and from the teachings of his grand old preceptor, Dr. John Peter Mettauer, *than whom a greater to the medical*

profession in Virginia has *never* come, the writer believes the poison to be *cumulative*. This poison from the saliva of a rabid animal, whether it may be called by scientist and microscopist, whatever ptomaine or cadaverous alkaloids, once lodged in the circulation, in its fatal events, though at first it may be a very infinitesimal particle, *grows* and *grows*, and *develops* and *develops*, within the system, and finally is increased by its *cumulative properties* to such a vast army of poisonous germs as to overwhelm the nervous system, when death is inevitable.

When the disease begins to develop, the subject or recipient of rabid saliva complains generally of pain in the seat of the bite. The wound hitherto, whether dressed, or as often happens neglected, at the time of its inception, has possibly healed over kindly, and has left a scar—which in no wise differs from that which supervenes to a wound inflicted by the teeth of an animal in the best of health—*now* just before the characteristic symptoms are about to appear, becomes very *red* and *inflamed*. A most remarkable alteration has been undergone in the appearance of the cicatrix, for all along the tract of the wound, becomes very red, almost livid, whilst the skin and adjacent tissues retain their normal hue. Unlike erysipelas, this redness and inflammation do not dip into the subcutaneous cellular tissue, but are confined to the skin all along the tract of the wound.

This has been described by the older writers by the name *recrudescence*, and is an almost infallable indication that hydrophobia has set in, for the connection between this and the disease is most remarkable. The patient becomes morose, peevish, fretful, gloomy, and despondent, with dreadful forebodings of impending evil. The countenance is anxious, and is the index of inexpressible anguish. The pulse and temperature are generally normal in this, the second stage of this dreadful malady. There are occasional flushes of fever—and sometimes delirium—but there are frequent intermissions, when the patient is perfectly rational and calm, and the normal temperature asserts itself. Sleeplessness is a pronounced symptom, and no *reasonable dose* of *any*

hypnotic or anodyne of any kind, though oft repeated, *has any appreciable effect*. Chloroform increases the respiratory spasm and cannot be tolerated by the patient; and the writer believes, from personal experience, if its administration were persisted in, the patient would soon die of asphyxia. The hypodermic use of morphia disappoints, for its free and persistent use only temporarily tranquilizes the patient—sometimes producing two or three minutes' sleep, but no refreshing slumber. Sixty grains of bromide of soda and twenty grains chloral hydrate, given by enemata in a few ounces of mucilage, produced only twenty-five minutes' sleep, although it was retained. Encouraged by the short sleep, an hour later it was repeated, but failed to induce sleep.

Early in January last, I was called to visit a young lady in Salem, Va. (Miss L. C.), who had just been bitten by a dog not then known to be mad. It was suspected, however, from the dog's action—as he had, without seeming provocation, bitten Miss L.'s little brother, and in her attempt to rescue her brother, she was badly bitten herself. Subsequent events revealed the fact that two others (little boys) had been bitten by the same dog near about the same time. I found Miss L. C. badly bitten in the hand and arm—all her clothing upon the arm had been torn off, and her arm, from the shoulder nearly to the hand, had been fearfully mutilated. The clothing of her brother had protected him a great deal, and he was not as severely injured as his sister. She was a bright intelligent girl, and after I had carefully dressed her arm, and was remarking upon the less serious nature in appearance of her brother's wounds (which were slight as compared to hers), she said, "Oh, the dog was furious with me, but with brother he was not so terribly in earnest." All the wounds of both patients were carefully disinfected, after being encouraged to bleed all they would, and all the blood that could be gotten pressed out of them. They were then thoroughly washed with a solution of permanganate of potash, and were cauterized and disinfected bandages applied. The wounds were carefully dressed daily. Those of the little boy healed readily. Those of the young lady in three weeks were well. This was early in February or about three weeks after the inception of the bite.

My professional duties often called me by the house where

Miss C. lived; besides, her mother was an unfortunate bed-ridden invalid, to whom I was occasionally called, so that I saw much of Miss L. after her seeming recovery from February to April.

During this period, and up to about 1st April, she seemed perfectly well, and was much pleased that her injuries had healed so kindly, and unless asked about them she never reverted to them, and as the dog inflicting the bite was not certainly known to be mad (the dog had been killed), she and her friends had almost dismissed it from their minds, and rested easy in regard to her.

In less than three months, I was summoned hurriedly to her, the messenger stating that his sister was having spasms and his father was very apprehensive about her, he said, and feared she had hydrophobia. I hurried to her bedside, and was grieved to find her father's worst fears verified. Upon opening the door, a breath of air excited a terrific respiratory spasm, not dysphagia, but a real respiratory spasm, lasting several minutes, from the effects of which she was temporarily asphyxiated; finally, however, the respiration asserted itself, and the circulation assumed a better tone—in a word, she had an intermission, and, for a little while, was rational and talkative, and said she had felt gloomy and despondent, and had not slept well for a week, and for a good many nights *had not slept at all*, and that her father would have called me earlier, but she had often felt badly during her "periods," and that was upon her now, and hence she "had not troubled the doctor;" and just at this juncture she was again seized with another severe respiratory spasm, lasting longer than its predecessor, but, after a little while, passed off, but this one was followed with delirium. She became rational again in a short while, and requested her father to pour some water in a bowl and bring to her bedside and wash her face and hands. He attempted to do so, and had poured out but a few ounces of water when she cried out to him to desist, and again had a very severe spasm. From this on, she had spasms more and more frequently till the end came, which was on the fifth day after the malady set in, and three days after I was summoned. However, before the end *did* come, she had frequent intermissions, and was calm, talked sensibly and well, called for some water and her tooth-brush, said she could not swallow, and did not want the water to *drink*, because she could not, but to wash her teeth, and that every time she attempted to drink she nearly suffocated. The water was brought, how-

ever, and when the tooth-brush was dropped into the glass, she had a spasm more prolonged, and, if possible, more horrible, than before, and this time followed by a profuse flow of saliva—insomuch that a basin was held under her chin, and her head elevated to prevent its copious flow from strangling her. She was a bright, sensible, healthy young lady—not impressibly nervous, not given to despondency—always healthy. In many of her intermissions, she was seemingly as bright as she ever was when in perfect health. During one of them, she said to me, “Oh, doctor, I suffer when a maniac, as I was all last night, all the tortures of those (as I imagine) in the regions of the damned; but when these little short periods of relief come (referring to the intermissions), I am so happy and resigned, for I know in whom I have believed, and I am—” The door was opened at this juncture by the entrance of a member of the family, a breath of air produced a spasm that nearly choked the patient, and the quotation was never finished.

What an unspeakably dreadful malady! It is obviously diverse from all other maladies which afflict the human race. Nothing in very many years of sorrow in the sick chamber, ever so impressed the writer. I had the sad duty at her earnest solicitation, to tell her—the end was very near, but never mentioned the *cause* or *name* of her malady. She divined it, however, in her calmer moments, and pointing to her scars, which by this time were swollen, red and painful, (recrudescant) and running her fingers over them, said, “they are blessings in disguise to carry me to heaven.”

Two intelligent physicians with brains and experience, Dr. J. J. Shanks and Dr. J. P. Killian saw the case with me. Both live in the town of Salem, and were familiar with all the circumstances attending this unfortunate young lady.

We have full warrant then, in saying, that the bite of the dog was the only known antecedent of all her symptoms, and that the wound was antecedent, principally and determinately the cause, and that the young lady died of hydrophobia.

In regard to the treatment of hydrophobia, little that is encouraging can be stated. The *materia medica* has been ransacked in vain for a curative remedy. The recent

hypodermic injections of the serum, by Pasteur, taken from the medulla oblongata of a dog *known to be rabid*, and injected into a rabbit, will invariably produce death of the animal with all the known symptoms of hydrophobia, in from one to nine days, according to the strength of the injected fluid. The serum taken from the medulla oblongata of the animal (usually a rabbit) so injected, and injected into the human system, is regarded by Pasteur and his followers as a sure preventive of the disease. I trust it may so prove to be. The first injection is given with the serum so obtained (from a rabbit dying) on the ninth day; second injection, eight; third injection, seventh day, and so on down to its full strength.

ART. XI.—The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.

By J. C. LE HARDY, M. D., of Savannah, Ga.

[Continued from January No., 1895.]

We have now reached the point where the yellow fever infection, after crossing a barren field (the depopulated locality), has again found material upon which to act, and new cases of fever appearing everywhere prove that the disease is epidemic. On September 13th, 1893, Sanitary Inspector Guiteras, in charge at Brunswick, sent the following telegrams to his chief: (1) "Post-mortem reveals fourth case of yellow fever" (2) "Just performed autopsy on second case Cox's child has yellow fever—taken sick Monday." (3) September 14th: "Another case to-day—Mrs. Turner a returned refugee" (4) September 15th: "The Turner child has yellow fever." (5) "September 16th: "Two new cases to-day." Speaking of the new cases, in a letter to the Surgeon-General, Dr. Guiteras says: "Now, these cases are unconnected with one another, and *they prove that there are foci of infection in the city* (italics mine), as I stated in my letter, in which I main-

tained that it was probable that Assistant-Surgeon Branham contracted the disease in the city of Brunswick, and not at quarantine." If such was his opinion, why did he allow depopulation before proving the city to be infected? And why did he, on September 7th, assure the Chief of the Service that "there had been no case of yellow fever since the Cox child," which was reported on the 22nd of August, thus showing that he was in favor of the removal of quarantine?

Immediately upon the receipt of Inspector Guiteras' first dispatches, Surgeon-General Wyman, as if fearful that the dreaded "contagion" was about to make its way to headquarters, availed himself of every means within his power likely to restrict the infection to the city of Brunswick.

To this end, the following dispatches were sent:

WASHINGTON, D. C., Sept. 14, 1893.

I. "Telegrams received. Employ necessary help to quarantine and disinfect infected localities, operating with local Board. Faget returns at once—will send regular officer.—To John Guiteras, M. D., Brunswick."

II. "Proceed immediately to Brunswick, Ga., for duty. . . .—To Surgeon Murray, Tortugas Quarantine."

III. "Three fresh cases of yellow fever in Brunswick; city undoubtedly infected. Request all mails leaving Brunswick disinfected.—To Hon. W. S. Bissell, Postmaster General."

IV. "Employ physician if possible; otherwise, some intelligent person as train inspector to prevent persons from Brunswick going to points south of Atlanta.—To the Postmaster, Jessup, Ga."

V. "Assume duties as Sanitary Inspector, to prevent passengers going to any point south of Atlanta.—To Dr. Ben. Williams, Way Cross, Ga."

VI. "Murray has been ordered to Brunswick. Geddings will leave to-night. Instruct railway companies to sell no tickets south of Atlanta. Have posted guards at Jessup and Way Cross to enforce this.—To John Guiteras, M. D., Brunswick."

VII. "Continue quarantine and disinfection of infected houses until further ordered. Camp will be opened as soon as practicable. Request Col. Haynes to take necessary meas-

ures to put camp in order pending arrival of medical officers.—To John Guiteras, M. D.”

VIII. “Have ordered inspectors at Jessup and Way Cross, and ordered railway companies at Brunswick to sell no tickets to points south of Atlanta. Have requested Postmaster-General to cause disinfection of mails from Brunswick. Will open camp as quickly as possible. Murray and Geddings ordered to Brunswick.—To State Health Officer of Florida, and to the Health Officer of Savannah.” And

“Washington, D. C., September 15, 1893.—Hasten camp. If advisable to stop passengers to Atlanta, do so.—To Past Assistant Surgeon H. D. Geddings, Marine Hospital Service, Brunswick.”

All these orders were carried out, as far as practicable, by the numerous surgeons, assistant surgeons, and *acting* assistant surgeons, by the sanitary and railway inspectors, and by the experts ordered or appointed by him. A camp of detention was established twenty-five miles away from the city, capable of accommodating two hundred and fifty persons, with a *retinue* of sixty-three attendants and guards. It was the only outlet through which (after a ten days' detention) the people from Brunswick, and from the infected islands, could pass; a “sanitary cordon around Brunswick” was established to prevent egress from the *doomed city*; a day and night patrol was kept upon Cumberland river, to keep Brunswickians from crossing into Florida; sixteen guards were detailed by the mayor of Darien (one of the Acting Assistant Surgeons Marine Hospital Service) to prevent refugees from entering the place; fifteen guards, with boats, were employed “to protect six passes on the water,” whose duty was to intercept any person who (*in the hope of getting away from the infection*) should attempt to cross to the neighboring island or elsewhere.

Inspectors were appointed to board every train at Way Cross and Jessup to stop all persons *suspected of running the blockade*, and to detain them, unless provided with a *pass* from the Surgeons of the Service.

In addition to these exceedingly stringent measures of the Marine Hospital Service, amateur detective work to catch

stray microbes was done, on the one side by the State Health Officer of Florida, and on the other by the Health Officer of Savannah.

Witness the following telegram addressed to Surgeon-General Wyman:

“JACKSONVILLE, FLA., September 18th, 1893.

“Cumberland river guarded. How will you provide against travel from Brunswick to Florida via Atlanta? Suggest agent at Atlanta to certify parties at least five days from Brunswick. Is there a sanitary cordon around Brunswick? Answer.—I. Y. Porter, H. O., Fla.”

The Health Officer of Savannah, who had already manifested his fealty to the head of the Marine Hospital Service by instituting barbaric measures, *called quarantine*, against the dreadful bug-bear, just as soon as Branham was reported to have yellow fever, sent the following telegram to the Surgeon-General October 2nd, 1893: “Have secured best available man here, Dr. F. T. Lincoln. Have two men at Jessup who will assist the Service if called upon My Jessup man wired five suspicious cases reported to Board of Health.—W. F. Brunner, H. O., Savannah.”

He had inspectors (some of whom were very rough, uncouth, and illiterate,) upon every passenger train coming to Savannah, who were instructed to demand from all the passengers, no matter whence they came, a “health certificate,” and unless such a document be produced, and accepted by these inspectors (some of these certificates were written by the person holding it), the person, whether a man or a gentle lady, was dropped at the next stopping place, where sometimes there were no accommodations.

A patrol was kept upon the Savannah river to hail every incoming craft, and all persons suspected to be from the infected district were required to produce a *pass* signed by the authorities whence they came before being permitted to enter our city.

The Sanitary (?) Commission of Savannah, of which the mayor is *ex-officio* chairman, either from a lack of faith in the efficacy of the methods used by the Marine Hospital

Service at Brunswick, and by the Health Officer around Savannah, *or for some other very good reason known to themselves alone*, issued an order requiring every man or woman leaving Savannah to get a pass (gentle reminiscence of slavery days), signed by the Health Officer. This pass must be vised and stamped at every stopping place, or else, on returning, its owner would be arrested and detained to await the pleasure of Savannah's Health Officer.

I had a call from Atlanta, during these trying times, to meet a Committee of the State Medical Association there, in order to aid in framing a bill for creating a Board of Health for Georgia, and to press its passage through the Legislature. While extremely desirous, and very willing to sacrifice time and money for so good an object, *I regarded it beneath the dignity of a free-born American citizen to submit to such a senseless outrage, and remained at home.*

So well did the officers of the Marine Hospital Service carry out the wishes of their Chief that only one case of the fever occurred outside of the infected district, although it was reported to have occurred at Waycross, Waresboro, Gardi, etc. This case, Legget, *a refugee from Jessup*, sickened *somewhere* in the country. He recovered, and the disease did not spread.

But the combined efforts of the Marine Hospital Service, and its allies, all the precautions taken from the very first day of Branham's sickness, and the strictest and most arbitrary quarantine, *did not prevent the infection from spreading wherever the conditions were favorable to the growth and fructification of the yellow fever plant.* In spite of the isolation of the first cases of disinfection, and of the "cordons sanitaires" (?) *yellow fever appeared and became epidemic at Jessup, on St. Simon's Island, and on Jekyll Island.*

On September 30th, one suspicious death occurred at Jessup, which was diagnosed "yellow fever," October 1st, by Surgeon Murray. In answer to the inquiry made by Surgeon-General Wyman: "Was the disease contracted in Jessup?" Murray answered: "Brunswick, Ga., October 1, 1893. Cannot account for infection of case at Jessup. Not caught

in or from Brunswick by present light. Think there have been cases for the past month." If this opinion be correct, it proves that Jessup was infected at or about the same time as Brunswick, and its correctness is sustained by reports which I have received, showing that intense heat, soil saturation, and filthiness, prevailed in both these localities.

The first case on Jekyl Island was reported to the head of the Service on September 22nd; and on October 2nd, two other cases on St. Simon's island (in 1864, the first cases of yellow fever appeared in Savannah in the early part of October). These cases were soon followed by others, the disease becoming epidemic on both islands. This made it incumbent on the Service to send physicians and experts there to attend the sick.

On September 23rd, in a dispatch to his Chief, Surgeon Murray says: "There are a great number of malarial cases, particularly among the colored people." This was evidently the fact. The great majority of cases reported as yellow fever were *so mild*, and the number of malarial fever cases so predominant, that the existence of an epidemic of yellow fever was hooted at by many of the inhabitants and rejected altogether by others, as is shown by the numerous letters which I have received. From these letters, I have selected one written by the Captain of a vessel then in port, addressed to a business man of Brunswick, because it expresses pretty fairly the views of the others:

SHIP CITY OF MONTREAL,
E. F. GREEN, Master,
BRUNSWICK, October 25th, 1893.

To W. M. Mason:

Dear Sir,—". . . I do not believe that there is one case of yellow fever here now, or that there has been one here this summer. I have visited a number of white persons sick with fever pronounced yellow fever, and find them more scared than sick, as the fever they had was very mild and not like any yellow fever I have ever seen; and I have seen a great deal of yellow fever in my time at Rio de Janeiro and Santos, Brazil, where I have made fifty trips at

least. I was in Santos during the whole of last year's epidemic, where more than fifty died in one single day.

Although I am not a doctor, I can say it is my belief that this is not yellow fever.

Yours respectfully,

E. F. GREEN.

A gentleman who is connected with the shipping interests of Brunswick, writes: "One singular thing about this yellow fever epidemic is that it has not affected the shipping at all. We have had more vessels here since this fever began than before and none of the sailors have been sick; the Captains have told me how they avoided coming after reading the reports, and then laughed at their fears after getting here." A clear proof of the mildness of the *infection* and the *rarity* of yellow fever cases, is shown in this extract from Surgeon H. D. Geddings' letter, written February 23, 1894: "In regard to the camp, it was opened on the 18th of September, 1893, and closed on the 30th November, 1893; 430 persons passed through it; and we had two cases of yellow fever only, both of whom contracted their infection in Brunswick. This is certainly remarkable!

The following letters, written by two well-known and skilled physicians of Camden county, show that a severe type of malarial fever prevailed extensively over all that section of the country; and although their county lies just across the river from Brunswick, they did not meet with a single case of yellow fever during the prevalence of the epidemic:

TARBOROUGH, GA., January, 2, 1894.

Dr. Le Hardy, Savannah:

Dear Sir,—I was with Capt. Biddle, of the schooner Anita Birwind, during his illness last July, and assisted Dr. Dunwoody in the autopsy. I saw cases of yellow fever in 1876, and have no doubt but that the Captain died of that fever. I saw no other case of yellow fever in Camden county last fall, and I practiced over most of the county. Dr. Shiell, who lives and practices nearer Brunswick, where the people were in and out all the time, had a better opportunity of observing cases contracted in and near the city. He at-

tended cases which he called malignant bilious fever; I am of the opinion that they were not yellow fever.

Very respectfully yours,

B. ATKINSON, *M. D.*

CAMDEN P. O., CAMDEN Co., GA., }
December 23, 1893. }

J. C. Le Hardy, M. D.:

Dear Doctor.— There was no necessity for the surgeons of the Marine Hospital Service to visit this county, as the cases that came under my professional care could not possibly be called yellow fever, but they constituted a severe type of malarial fever designated by Flint and others as pernicious remittent, but known to the non-professional as "malicious fever"—in my opinion a very good name, as the symptoms showed a malicious intent to destroy the patient. As I did not visit Brunswick during the epidemic, I can say but little of what they had there; but of this I can assure you, I did not have a case of yellow fever in my practice, nor did I hear that any of my brother practitioners in my section had any. If the disease in Brunswick *was* yellow fever, the treatment must have been excellent, as there were so few deaths, and I hope the Surgeon-General of the Marine Hospital Service will issue the treatment in pamphlet form to the medical profession, so that we may do likewise when we come across a case of yellow fever.

Accept, sir, the assurance of my professional respect.

H. T. SHIELL, *M. D.*

When finally convinced of the failure of his preventive measures in checking the progress of yellow fever, and that the fever was spreading rapidly over Brunswick, the head of the Marine Hospital Service, as if to atone for the blunders that had been made, bent all his energies toward alleviating the suffering of the people by as free a use of the epidemic fund as circumstances would allow. In addition to the many nurses and others employed within the city, numerous guards were detailed to keep up the "cordons." To the camp of "Probation" was added another to accommodate and feed the needy refugees. In addition to the officers of the Service ordered to Brunswick from time to time, to-wit: Surgeons Hutton, Carter, Guiteras, Mcgruder, Murray, Geddings and DeSaussure (Murray acting as Chief

Surgeon during the epidemic), seven local physicians and two negro doctors were placed upon the pay-roll; and men having acquired reputation in the treatment of yellow fever, such as Drs. Wall, of Tampa, Fla.; Faget, of New Orleans; Legare, of Donaldsonville, La., and Acting Assistant Surgeon Booth, of Shreveport, La., were also called upon and employed to treat the sick of Brunswick and neighboring islands. Since the number of cases *reported* yellow fever barely reached one thousand, these twenty doctors had an average of fifty patients, or about *one-half a patient per day* during the epidemic—*giving them ample time for scientific investigation!*

Dr. Falligaut, in his pamphlet upon the epidemic of 1876 in Savannah, states that he treated one thousand cases of yellow fever, and there were several other physicians whose practice much exceeded that of Dr. F.

While the opportunities to advance our knowledge of the ætiology, therapeutics and the treatment of yellow fever were so favorable during the course of this epidemic, nothing was done! The journal of the Marine Hospital Service gave the number of cases day by day—nothing more. In the hope of securing some valuable information, I mailed inquiries to almost every physician, surgeon and expert who had been engaged in treating the sick at Brunswick, at Jesup, in camp or upon the infected islands, but my efforts did not meet with much success. A considerable number failed to honor my letters by an answer; others avoided answering the questions or managed to give no information at all. Of the letters that I received from officers of the Marine Hospital Service from experts and local physicians, I will quote such parts as relate to the subject of this paper. One says: "Branham took the disease at the Quarantine Station and died. The captain of the Anita Birwind took it and he died. After fumigating his vessel he was allowed to go to Brunswick. In view of the above, is it presuming too much to say that the Cox child and Harris *came in contact with some people from the Quarantine Station?* (*italics mine.*) I think I attended 160 cases of

fever—six of whom died, with but a single exception, of black vomit. . . . I saw quite a number of malarial fever cases.”

Another tells me: “I have attended 110 cases, white and black. Of the former, ten were cases of genuine yellow fever; five of them had black vomit (the same as seen by the others). . . . Dr. Guiteras’ investigation of the possibility of the existence of yellow fever before the Branham and Harris cases proved barren of results. Nothing like yellow fever being found. As to the origin of the fever, Dr. Murray, Marine Hospital Service Surgeon, could give you more reliable information than I, as he was the controlling chief surgeon. Outsiders mostly ascribe the origin of the fever to Dr. Branham, but I think very unreasonably, chiefly because the three first cases were almost simultaneous—one of them, the Cox child, being distant about a mile. . . . As to the cases I attended, I think some were marked cases of ephemeral yellow fever, or of the fever as it occurs in the dark races in a mitigated form. Several of them had a continued fever of a severe type, no black vomit, and followed by recovery. Most of the cases I treated I considered to be remittent malarial, and were easily controlled by moderate doses of phenacetin and quinine. Only one case in a white person I diagnosed as dengue fever. The number of cases that ended fatally was reported as fifty-four. A large majority of cases reported by the different doctors were malarial, and the mortality, as you remark, entirely too few for yellow fever. I believe all cases were reported indiscriminately as yellow fever, and the per cent. of mortality based on them. I saw four autopsies; in three of whites the *post mortem* appearances of tawny liver were characteristic; the fourth was pronounced malarial.”

Another writes: “In reply, I would beg to state that I had no personal experience in the treatment of the sick during the last epidemic in Brunswick, Ga., my field of duty being confined to the Detention Camp near Waynes-

ville, Ga. From the best information which I can gather, I believe that the mortality was really low, the cases of malarial fever which were reported as yellow, being rather more than balanced by the cases of yellow fever which were either not reported at all or which were reported as malarial. It strikes me that the type of the disease has undergone a change from what it used to be in days when my grandfather and father treated it in Charleston in the '30's, '40's and '50's; for I do not believe it is treated any more scientifically now than then, as we conjecture more about the cause, but know practically just as little definitively about the ætiology." From another I take: " As to the origin of the cases of Branham, Harris and Bertha Cox, I have no exclusive information, else I would gladly give it to you." Finally, on January 24th, 1894, when I supposed that all the information connected with the epidemic had been gathered in, I wrote to Dr. R. D. Murray, Surgeon in Chief at Brunswick, in order to have "an accurate description of the yellow fever of Brunswick—to ascertain the ratio of mortality in cases with well-marked symptoms—also the proportion of cases of fever with remission or intermission in comparison with monoparaxysmal ones." It was my desire to compare his notes with those taken by me in other epidemics. I received a prompt answer, and in consideration of the responsible position held by Surgeon Murray in the service, I give it in full:

MARINE HOSPITAL SERVICE,	}
SOUTHERN ATLANTIC DISTRICT,	
SURGEON'S OFFICE,	
PORT OF BRUNSWICK, GA.,	
January 25th, 1894.	

J. C. Le Hardy, M. D., Savannah, Ga.:

Dear Doctor,—Yours of January 24th is at hand. I am packing up to go to a more decent climate, and am not able to give you in detail my fancies and a few things I know in regard to yellow fever in Brunswick.

The sixteen post-mortems made by me show to any but the blind the wonderful physical difference between yellow and malarial fevers; due report will be made as soon as I

get well enough to write. The clinical differences I have known for years, but do not bet on every case, as I cannot control personalities. Beranger-Ferand gives a good parallel, but I hope to add some extra signs.

The fever in Brunswick that was most fatal was yellow fever, as I have seen in more years for twenty-four than any United States practitioner I know of. The common malaria of Southern Georgia got in its work here as well as in other parts of Georgia. But the diseases are different, even if people are the same.

The fever came to Brunswick from Cienfuegos and Havana passing through a political quarantine. I am not now at liberty to give you the details and steps of the fever's course.

The quarantine against Brunswick was necessary, wise and less harsh than any I have ever known. Much of the restrictional measures being controlled by me on the inside, there was less worry and distress and loss of business than was ever known before.

Dr. Booth makes no claim to two hundred patients, but I am not in receipt of his report. Have loaned Dr. Walls' report for the day, but think he claims one hundred and forty. Tropical people and negroes bear yellow fever better than those who do not have active leucocytes. Our diminishal mortality is a delusion. Twenty people died who were over or carelessly treated. Four per cent. is too high a rate. With mild purgation, coal tar, cocaine and common sense not over 2 per cent. should die.

Wish I could write more, but must begin to pack up.

Yours sincerely,

R. D. MURRAY,
Surg. M. H. S.

On January 17th, 1894, in answer to a second letter addressed to the President of the Board of Health of Brunswick, Dr. Hugh Burford wrote: " My only *and true* reasons for non-reply to your queries; active and pressing duties during the prevalence of the fever. Our Board of Health will get out a report of the epidemic, a copy of which will be sent you, as well as a copy of my individual report. " I have not yet received either of these reports.

To the questions relating to the epidemic, sent to R. E. L. Burford, Acting Health Officer, Acting Assistant Surgeon Marine Hospital Service, and Quarantine Officer, I have received no answer at all.

Hoping to learn something new in regard to the treatment of yellow fever by tincture of the hydrochloride of iron, which had already been tried during the epidemic of 1854 in Savannah, and proved a failure, I wrote three times in succession to Dr. C. Faget, of New Orleans, who had experimented with it, but I have never received an answer from him.

From the tenor of the following letters, it seems that the people of Jesup did not fare as well as those of Brunswick. Evidently there was no lavish expenditure of the epidemic fund in that town! Why such a difference was made I cannot well understand, unless it be that Jesup, by *presuming to get the yellow fever* in spite of the many precautions which had been taken by his officers, incurred the displeasure of the Chief of the Marine Hospital Service.

JESUP, GA., February 22, 1894.

Dr. J. C. Le Hardy, Savannah:

Dear Sir,—Your letter received. I gladly give you the information you desire. There were thirty-two cases of yellow fever reported in Jesup, six cases of black vomit and three deaths. There were cases of malarial fever at the same time. I treated twelve cases of yellow fever and six cases of malarial fever. Our people were not fed by the Government. I saw every case of yellow fever in town, and was obliged to act as undertaker, as the United States Marine Hospital Service did not take any step in that respect. I did not receive one penny for my services or for the time I lost. I estimate my losses at \$225 during my quarantine in Jesup.

Yours fraternally,

E. P. LITTLE, M. D.

JESUP, GA., February 19, 1894.

Dr. J. C. Le Hardy, Savannah:

Dear Sir and Doctor,—Yours of the 18th instant to hand and contents noted. I will gladly give you all the information I can about the yellow fever in Jesup, Ga. I did treat fourteen cases of yellow fever; of this number, two had black vomit and died. Malaria prevailed to some extent. The cases I saw, two in number, were contracted in

the Altamaha river swamps, and developed a few days after quarantine was established. I was not employed by the Marine Hospital Service. I received no compensation from the Government or any other source; I estimate my loss by being shut up during quarantine at \$200; we were quarantined fully twelve days after the last case. The quarantine was kept up by the Marine Hospital Service, but I think Savannah's health officer had great influence over the actions of the Marine Hospital Service.

I have a few specimens of black vomit that came from one of these patients. Will gladly give you any other information you may desire.

Yours fraternally,

J. G. TUTEN, M. D.

[TO BE CONCLUDED NEXT MONTH.]

ART. XII.—*Hæmatoma of Vulva Incident to Parturition.*

By ROBERT GLASGOW, M. D., of Lexington, Va.,

MEMBER MEDICAL EXAMINING BOARD OF VIRGINIA, ETC.

Hæmatoma of the vulva, or pudendal hæmatocele, incident to parturition, is, I take it, a comparatively rare condition. In the writer's experience, embracing some five hundred deliveries, he has seen but one case, and others with a more extended experience tell me they have seen no such case. For this reason, it has occurred to me that the report of the following might prove of interest to some:

Mrs. B., age about 30, German by birth, was delivered of her first child December 18th, 1892. Labor normal in every particular except a protracted second stage; was up and about her household duties in the usual time.

I was called also to attend her in her second confinement, December 1st, 1894. Upon examination, I found the os dilating and the head presenting at the superior strait, in the left occipito-anterior position. The labor progressed normally, and as soon as the os was well dilated, four or five hard expulsive pains completed the delivery—in striking contrast with her previous labor, when the expulsive stage lasted for hours. The placenta was delivered in about twenty minutes without trouble.

The head being very large, and its transit though the par-

turient canal so rapid, suggested that some damage may have resulted to the soft parts. Upon inspection, a slight laceration was discovered on the inner surface of the left labium major—so slight, however, that I did not think it necessary to repair the same by suture. After bathing the parts thoroughly with an antiseptic solution, at 5 A. M., I left the patient in good condition and very comfortable, except an occasional after-pain. About 9:30 A. M., a message came from the nurse to come at once; that something was wrong, and the patient suffering greatly.

As soon as I entered the room, I was impressed that something serious was the matter. The patient looked exsanguinated; her pulse was weak and rapid, and she was suffering as acutely as she had done during labor—the pain being very much of the same character, paroxysmal and bearing down. I soon discovered there had been and still continued a copious hæmorrhage, and there had developed in the left and anterior vulva-vaginal regions a large hæmatoma extending well up into the submucous areolar tissue on the anterior and left sides of the vagina, and also the subcutaneous areolar tissue of the left labium major, making a tumor as large as a cocoanut. The patient would have, every few minutes, a severe paroxysm of pain, which she located at the seat of tumor. This was attended by hard straining and bearing down, and a copious discharge of blood from the laceration above mentioned, the edges of which were now widely separated by reason of the accumulation of blood beneath, and the resulting distention; this proved to be the only source of hæmorrhage, as the uterus was firmly contracted and not bleeding. I succeeded in controlling the hæmorrhage by pressure and cold compresses. Gave the patient a hypodermic of one-third grain morphine and alcoholic stimulants; her condition soon improved, when an antiseptic compress was applied, and held in position by a snugly-fitting T bandage, which was left undisturbed till the next day, when it was removed and the clot found to be thoroughly formed. Cloths wrung out of hot bichloride solution were now ordered to be kept constantly applied to the tumor, with a view of promoting absorption. The tumor so encroached upon the urethra as to necessitate for several days the use of the catheter. The patient progressed fairly well till the eighth day, the tumor having decreased somewhat in size; but at this time there were signs of the clot breaking down, as evidenced by the discharge of bloody fragments, etc., through the opening in

the labium which communicated with the cavity containing the clot. This discharge also had a foul odor. The patient's general condition was not as good; had slept none the night previous; had chill, fever, sweating and other symptoms of general systemic infection.

At this time I opened up the cavity, turned out the clot, irrigated with 5 per cent. creoline solution, and packed with iodoform gauze. The next morning I found the patient improved; had passed a good night; temperature had come down to normal, and all symptoms of sepsis had disappeared. Since that time she has had a general supporting treatment with daily irrigation and gauze packing; she has steadily improved. The local treatment was discontinued on the twentieth day after delivery, at which time the cavity had practically filled up, and the patient was allowed to get up. Her husband tells me to-day (the twenty-fourth day) that she is going about the house, and, except for a little weakness, feels quite as well as usual.

This case, I think, forcibly illustrates the advantages of antiseptic surgery. Under the old plan of treatment, had this patient escaped a fatal septicæmia, she would necessarily have dragged through a long and tedious convalescence.

ART. XIII.—Acetanilid as an Abortant of Chills, and Some Other Uses.

By BEN. H. BRODNAX, M. D., of Brodnax, La.

One of the best of the many uses of acetanilid is that of inducing, in a few moments, a gentle perspiration. Years ago, when we had to depend on the slow-acting, nauseating diaphoretics, ipecac, and the like, how I have prayed for something which would act quick, had no taste, and did not nauseate. All these good qualities acetanilid possesses in full. My first use of it (when it was first introduced) was on a child of six months of age, on the verge of convulsions with fever. I must confess I gave it with some misgivings. Within ten minutes a pleasant perspiration came on, the infant slept, and the rigid contraction of muscles was gone.

Some time after that, I used it in 3-grain doses on three children in one house to keep off chills and fever, giving it half an hour before the expected chill. When the chill should have come, they were asleep and sweating. In an hour after, they were at play in the yard. I left some of the powders with the mother, with directions to repeat next day—gave ad interim tincture of iron (acid iron). They had no return of the chills that season. Since then I have used it in hundreds of cases in my practice with the same success, as well as in my own family and on myself; a few days ago, I forgot my chill, but it was *true to me*. While it was on me, I took a full dose, six grains, laid down, and in a few moments was sweating. No more chill nor fever. In an hour, I was up and on my horse going to see a patient. I use very little quinine in my practice.

For "that tired feeling," a pinch of the drug put into mouth, mixed with saliva and swallowed, rests you up in a few moments so that you are as fresh as before.

For headache from fatigue, repeat the above and be relieved.

As a dusting powder on burns, or as a surgical dressing, or to use on the "cord" in infants at birth, make a mixture as follows: Acetanilid, boric acid equal parts powder, dust thickly over the surface, cover with a light pad of absorbent cotton and light bandage. This seems to act locally as an anæsthetic, and is clean; seems to destroy the bad odor, and relieves pain.

For chafed places on infants or adults, use as above, dusting on and separating the surfaces that rub with absorbent cotton. The same made into an ointment, with castor oil, is a great soother to painful surfaces, abscesses, etc.

For abrasions of the skin, caused by a glancing blow from a hard substance, use as above, or mixed with castor oil.

On old sores, use by dusting on thick, then cotton, with bandage.

During labor, it eases the pain and brings on a profuse sweat, which helps to relax the muscular rigidity. It may

be given safely with chloral hydrate, morphine, or chlo-anodyne, a splendid sedative made by Messrs. Parke, Davis & Co.

I am convinced, from a very extensive use of the acetanilid, that the much-talked-of "cyanotic effects" are more imaginary than real, having but once seen this effect produced. Recently, in several cases where there was some dread by the patient of this effect, I have fortified them with the "Kola compound," of same firm. The virtues of these two, of this firm's product, should be more generally known and used—the one as an aid to sedative action of such drugs as morphine and opium, and the other ("Kola compound"), to offset too much of the action of the same. In my hands of late they have done me splendid service. In using chlo-anodyne, I use it to mix the acetanilid in and give both together. In fact, I have no sympathy with these shriekers at proprietary medicines. They make a more perfect palatable and elegant preparation than any ordinary druggist, and certainly much better and cheaper than any average doctor can hope to make. Any old doctor who can look back forty or fifty years ago, with gamboge, calomel, jalap, senna and salts, powdered Peruvian bark, musty old mustard plasters, etc., can appreciate the beautiful concentrated extracts made into tablets, gelatine-coated pills and granules, and the various elixirs and syrups of the present day. I well recollect the dread I had to the job of making 200 or 300 pills by hand, when a few cents now gives them to you beautifully coated as alkaloidal or solid extracts. Also the splendid always-ready mustard leaves, ready prepared by merely wetting them; as also the medicated bandages and absorbent cotton of our day. Those who have so much to say against these things, as "not ethical or officinal," should be set back fifty years and made to use those brutal compounds of nastiness, and none others. They would, like myself and many more old doctors, hail their day of liberation.

ART. XIV.—Uric Acid in the New-Born.

By JESSE H. PEEK, M. D., of Hampton, Va

CASE I. Baby was born at midnight. Mother was in labor about the average length of time. The next morning when I called, the nurse stated that the baby cried very much, and seemed to suffer a great deal during the night. She thought it had the colic, and gave it some paregoric in warm sweetened water, afterwards a teaspoonful or two of warm milk and water and it then became quiet and went to sleep. It slept until a short while before I made my morning call, when it waked and began to fret again. It had passed water, and also some "lumps of reddish clay," which the nurse kept to show me. There were deposited on the diaper two or three little lumps of urates twice the size of the head of a pin. They were very dry, and when compressed by the fingers, resolved themselves into an amorphous powder. The infant was crying and seemed to suffer very much. One grain of potass. acetat. and ten drops of paregoric in a tablespoonful of water given at once and repeated in one hour, relieved the infant of all pain and brought on an abundant flow of urine. The little patient had no further trouble.

CASE II. This case was looked after by an inexperienced nurse. The infant cried very much after I left. The nurse was up all the rest of the night rocking and patting the baby, trying to soothe it, but adding fuel to the fire. In the morning when she examined the diaper, for the baby had passed a little water, she discovered quite a considerable mass of urates upon it. She sent for me in great hurry, and presenting the diaper, and with much excitement and alarm, said the baby had been crying all night and had passed that (the urates) from his bladder. A few drops of sweet spirits of nitre, largely diluted, brought the urine to a healthy color and its normal amount, and relieved the infant of its sufferings.

CASE III. This case was looked after by the nurse who saw the first case. When I made my morning call, the nurse reported that the baby had the gravel like Mrs. B's baby. She gave paregoric to relieve its pain. It then went to sleep, and when it awoke, she examined its diaper and found the "reddish dirt" upon it. I ordered sweet spirits nitre and paregoric largely diluted with water. The baby

soon passed water freely in considerable quantities and became easy and quiet.

I could cite many other cases that have come under observation in my general practice, but I think these will be sufficient to attract the attention of those who have never noticed this affection in infants. I know we are very prone to order an anodyne for a crying baby without investigating the cause of the pain—thinking that as infants cannot tell us where the pain is, we will relieve them and let nature effect the cure. This trouble I believe is often the cause of “bad babies,” and no doubt the catnip tea so often, in fact always, given by country midwives is not altogether out of place, for the tea is composed more of water and less of catnip. The water of course is the active agent, but the catnip may add some to its efficacy on account of its anodyne and carminative properties. I believe oftentimes the little creatures are physiced for colic when a good draught of warm water would flush out the kidneys and cure the colic. Who of us has not heard a grand-mother say, “give the baby a drink of water and it will not suffer from the colic?” Unless there is a free flow of milk from the mother’s breast, I generally prescribe a tablespoonful of warm water to be given the baby after its toilet.

In looking up the literature on this subject, I was surprised to find so little mentioned. In an article on “Vesical, Urethral and Preputial Calculi” in Keating’s *Cyclopædia of Diseases of Children*, the author mentions this disease in arguing to establish the hereditary tendency to stone in the bladder. He says, “the urates of sodium and ammonium, constituting the grit found in the kidney tubules of infants, the brown dust on their napkins, which is known by the microscope to be mostly formed of uric acid, all point to a congenital or hereditary tendency to produce this substance in excess.” Langenbeck found a calculus in the bladder of a male foetus at six months, thus proving its existence in uterine life. Brendel quotes the reports of three cases of stone in the bladder found three days after birth.

The above cases are sufficient to my mind to establish

the fact, that a new-born babe does not always have the belly-ache when it cries; and when we are sent for to see a new-born babe the granny has shaken and spanked and patted and walked and treated with various other remedies, soot tea thrown in, very often we will find that the kidneys are the offended organs and gravel the casus morbi.

Clinical Reports.

A Case of Traumatic Tetanus—Recovery.*

By S. P. PRESTON, M. D., of Lynchburg, Va.

October 13, 1894—Elijah G., school boy, age ten. When first examined at my office, complained of pain in lumbar region and right elbow, and of stiffness of jaws. There was no history of a wound, nor could any signs of a punctured wound be found on the soles of the feet. Mouth could be opened with some difficulty. The boy could talk and eat without much trouble. Legs seemed to be somewhat stiff; reflexes normal; temperature normal. The next day the mother reported that he had to be carried home from school, as he had had a spasm. Owing to the fact that the father was an epileptic, it was not quite clear that these spasms were tetanic in their nature. As the mother described them, however, the boy arched himself back, bit his tongue violently, and wore the sardonic grin, but was perfectly conscious during the attack. On the 17th, it became clear that the case was one of lock-jaw. The mouth could, by great effort, be opened just enough to protrude the tip of the tongue. The tongue was badly lacerated; the muscles of the jaw were hard. The abdomen was board-like and the legs perfectly rigid.

Careful examination showed a slight yellowish elevation on the sole of the left foot, in front of the heel; and on pressing at this point, the boy had an opisthotonic spasm. The teeth cut nearly through the tongue, and the patient cried out with pain. This was the only convulsion that the writer witnessed, but it was certainly characteristic. With a sharp bistoury, a crucial incision was made, and the first

* Read before Lynchburg Academy of Medicine, January 9th, 1895.

stroke of the knife brought out the point of a thorn, which the boy recollected to have stuck in his foot about ten days before he was taken sick. The wound was swabbed out with pure carbolic acid, and closed up. It healed without suppuration.

He was given bromide of potassium, chloral and fluid extract of hyoscyamus, combined. Morphine had to be resorted to occasionally to control pain—at night especially.

Before he could take nourishment or medicine, the lacerated tongue was touched with a solution of cocaine.

October 24.—Legs less rigid.

October 25.—Can be voluntarily flexed, slightly.

October 26.—Pain in back less.

October 30.—Abdomen softer.

November 10.—Patient begins to walk.

November 14.—Patient discharged as well.

Remarks: Absence of substernal pain and no interference with the respiration, were noticeable features. Temperature never rose above $99\frac{1}{2}$ ° F. A curious phenomenon was some double vision complained of. The second image of the diplopia was below and to the right (of patient).

The patient kept his eyes tightly closed—evidently dreading the light very much—and when he was induced to open them, there was some ptosis of both lids to be noticed.

1123 Church Street.

Correspondence.

Asclepias Verticillata for Hydrophobia, as also for Snakebites, etc.

While spending some time in St. Clair county, Ala., this summer, in an effort to recover my health, I became much interested in the properties of a grass or weed that grows among the rocks on the summit of the mountains of that county. It was used by the natives as a remedy for snakebites, even of the most poisonous serpents, and what was of much more interest to me as a remedy for the bites of rabid-dogs. An experiment was made while I was at the St. Clair Springs of the power of this medicine as an antidote to the poisonous effects of bites of the most dangerous serpents.

A large, strong snake, called the "cotton-mouth moccasin," was caught and brought to the Springs, and placed in a strong box with a glass cover. The bite of this snake is more dreaded by the natives of St. Clair than the bite of the large rattlesnake, and is thought more deadly. The name cotton-mouth arises from the habit of this snake *lying* with his mouth open, which is as white as cotton. Cotton pickers have been bitten in cotton fields in attempting to pick it up as a lock of cotton with locks of cotton. Small animals dropped in the box were killed almost instantly by its bite. After some days a strong dog was procured, and the snake and dog were carried to Springville to have the experiment made of the effect of the snake bite on the dog, and of the antidote, in the presence of Drs. McGlockim and Ash, the most prominent physicians of this beautiful village.

The snake was placed in a large box and the dog dropped in. The snake instantly bit him on his ear and head, and six times upon the left fore-leg before the dog could get out. In a few minutes, the dog became so sick and weak that he could not stand, but fell over on his side and looked like he would die in a short time. There did not seem to be much time to lose before applying the antidote. Several doses were administered, and application of the same made to the different bites. The process of threatening death was arrested, and the dog soon appeared much better. He continued to improve, and after an hour or two appeared to have recovered from the shock and effects of the poison.

A tincture of the root of this grass or weed is used all over the county for the bites of the various snakes. The people of this county derived their knowledge of this weed from an old white man who lived among the Indians before their removal West, and he learned its use from them. This old man has continued to cure snake-bites with it to this day. This tincture is used as an intoxicating drink by some of the natives, being quicker and more diffusible than alcohol, and flies all over the system, with a rapidity approaching the effect of chloroform taken internally in small doses.

What was of more interest to me was the effect this medicine is said to have upon those poisoned by the bites of rabid dogs. Many cases were reported of horses, mules, cows and hogs and people bitten by mad dogs. All of the animals bitten died of rabies within forty to sixty days after being bitten by the rabid dogs. Of the persons to whom this medicine was given none died, though some

showed the commencing insanity and other symptoms of hydrophobia before the medicine was obtained. I enclose you some of the affidavits given before the judge of the County Court of persons whose wives and children were bitten by mad dogs, and many animals bitten by the same dogs died of hydrophobia, but the people were relieved.

If it should prove to be true that hydrophobia can be prevented or cured by the administration of a tincture of this weed or grass, it would be a heaven sent blessing to humanity.

One of these affidavits, sworn before a magistrate and also before the judge of County Court, shows that a boy bitten severely on the hand and face by a mad dog, which dog bit hogs, horses and two mules, which all died of hydrophobia after a few weeks, and the boy after twenty-five days waked up at night and was strange in his behavior, and at times out of his mind. A mad-stone had been applied to his wound, but it would not stick, as they call it; so they sent for snake-bite antidote, and he used large quantities of it for weeks, until all bad symptoms disappeared.

Another affidavit is from a man whose wife was bit on her breasts sworn to before a magistrate and before the judge of the County Court. This dog bit mules, cows, horses, and hogs of this man and his neighbors, and all the mules, horses, cows and hogs died of hydrophobia after some weeks. The woman was put on the snake-bite antidote and she got well, and has remained so to this date.

It is a general belief over that mountain country that a tincture of this weed will prevent and cure hydrophobia after it has set in with violent symptoms.

I enclose you a little box of the weed and roots,* so you can see to what class of plants it belongs, and find out its active principle and botanical name.

Very truly yours,

WM. T. SAWYER, M. D.

Greensboro, Hale Co., Ala.

*We handed the specimens to Mr. Andrew T. Snellings, Ph. G., of the Virginia Pharmacal Co., and Professor of Botany and Materia Medica, University College of Medicine, Richmond, Va., for examination, and he has kindly returned the following report: "The plant specimen left with me yesterday is undoubtedly *Asclepias verticillata* (Linn.), var. *pumila* (Gray). Looking up the medicinal properties of this plant, I find that mention is made of it in the *U. S. Dispensatory*, page 235, as a remedy for snakebites and bites of venomous insects. Reference is also made to the *Virginia Medical Journal*, Dec., 1858."

Syphilis Known Before the Discovery of America

Mr. Editor,—To prove that syphilis was known before the discovery of America, and cannot therefore be of American origin, Dr. H. A. Robbins, in his interesting paper, "Lues Venerea," printed in the last number of this publication, refers to the writings of a Chinese author, Hoan-ty, "who lived two thousand six hundred and thirty-seven years before the Christian era," and who gave "an unmistakable account of lues venerea."

A more recent reference can be found in the works of Gaspard Torella, who wrote toward the end of the fifteenth century—*i. e.*, 1498, six years after the discovery of America. It must have been some time, certainly more than four or five years after the return of Columbus and his crews, that there were cases of syphilis among them, that the disease became sufficiently widespread and well known as to be generally recognized and to receive systematic description by the medical writers of that age. This supposition is strengthened by the fact that Torella writes of syphilis of the new-born, clearly indicating a more than recent knowledge of the disease and more than a few years' experience with it. Without touching upon the theory of the North-eastern Asiatic origin of syphilis, I think that the work of Torella is sufficient to remove the stigma from our shores. Torella makes the following reference to specific infection of the new-born, which is taken from Diday's work on the same subject: "In pueris lactantibus prima infectio apparet in ore aut facie; et hoc accidit propter mammas infectas, aut faciem, aut nutrices, sen alicujus alterius. Solent enim nutrices sæpius infantes osculari, et sæpius vidi infantem infectum hoc mado multas nutrices infecisse."

BERNARD WOLFF, M. D.

Atlanta, Ga., Jan. 15, 1895.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

Concerning the Limitations to the Removal of Naso-Pharyngeal Adenoids.

The diagnosis of the existence of naso-pharyngeal adenoids is easy. Their effects on the hearing, on nasal breathing, on development of the nose itself, on the hard palate and teeth, and their relation to one form of so-called granular pharyngitis have all received more or less attention at the hands of writers on throat affections. Where these naso-pharyngeal growths are large, their removal can be accomplished with some degree of satisfaction by any one of several methods. In older children and adults the difficulties of removing such a proportion as we please of this adenoid tissue are very slight, provided we make use of snare as well as forceps. In young children it is practically impossible to regulate, as we can do in adults, the amount of adenoid tissue removed; and we must be satisfied with the removal of the larger masses; hence it sometimes happens, in very young children, that there is a recurrence of the symptoms which demanded an operative interference.

James T., aged 4; operated under chloroform for removal of post-nasal adenoids. Symptoms demanding operation—mouth breathing and loud snoring when asleep. Result of operation: complete cessation of the noisy respiration. One year later patient had a severe cold, with tonsillar inflammation. Return of noisy respiration during sleep: nor did this cease when the acute inflammatory symptoms disappeared. No permanent enlargement of the faucial tonsils.

I do not recall a case where I had reason to believe permanent enlargement of healthy naso-pharyngeal lymphatics was the result of inflammatory processes, which came into existence after the patient's twelfth year. In the great majority

of cases, lymphoid hypertrophies begin within the first three or four years of life. That these hypertrophies may for several years still further increase in size must, I believe, be admitted. If it be possible for a healthy pharyngeal lymph system to show hypertrophic changes, acquired later than the twelfth year, I should refer these changes to the result of diphtheritic inflammation. I have seen several such cases where the histories, as given by the patients themselves, pointed to this as the case: but, inasmuch as I did not see the patients prior to the diphtheritic attacks, I am unable to say, from observation, that after the twelfth year diphtheria may produce permanent lymphatic hypertrophies. It sometimes happens that coincidently with hypertrophy of the pharyngeal superficial lymphatic the lymphatics of the neck enlarge, and afterwards for several years increase and decrease in size, in accordance with the presence or absence of acute inflammatory changes in the superficial lymphatics.

In our climate some, more or less, well-marked hypertrophy of the pharyngeal superficial lymphatics, seems to be the rule in young children. This is not, however, a normal, but a pathological condition, to vary in its import according to the degree of the hypertrophy, its location, the constitution of the child and the external influences to which the child shall be subjected.

It often happens in the case of young children that advice is sought in regard to symptoms which are directly referable to an hypertrophied condition of some part or the whole of the superficial pharyngeal lymph system. Examination reveals the third tonsil, considerably enlarged, moderate masses of hypertrophy in the cul-de-sac, formed by the Eustachian tube-mouths, and the pharyngeal walls, more or less well marked hypertrophies all along the lymphatic chains on either side of the upper pharynx, extending from the third tonsil to the lower border of the posterior pillar of the fauces; there may be along with this condition only a moderate enlargement of the faucial tonsils, and only a

slight or no hypertrophy of the lingual tonsil and its lymphatic chains.

Or, again, our patient may be between fourteen and twenty-two or three years of age, younger or older. His third tonsil has been removed, and skilfully, and so have his faucial tonsils, and yet he complains of a constant annoying accumulation of mucus in his nose and throat. His catarrhal symptoms have been only slightly modified by the removal of the naso-pharyngeal and faucial tonsils. Neither washes nor applications to the naso-pharyngeal space have afforded him the relief he seeks.

In the above cases I am dealing with patients whose general health is, as far as we can make out, excellent. Examination of such cases reveals an upper pharynx whose surface is roughened and irregular for the space from which sprung the naso-pharyngeal tonsillar tissue. The greater part of this hypertrophied tissue has been removed; the irregular condition of the pharyngeal wall shows to what an extent. The operative measures, although correctly carried out, have failed to relieve the patient. Examining the naso-pharynx more closely, we find, again, a hypertrophic condition of the lateral lymph chains, and a general thickened condition of the pharyngeal mucous membrane for its whole extent. It may be remarked here that there is no definite space on the naso-pharyngeal wall which may be set down as the pharyngeal tonsil area. While, as a rule, the hypertrophy of the naso-pharyngeal tonsil, so-called, shows itself in a marked degree only on the upper part of the posterior wall of the naso-pharynx, this hypertrophy, under certain conditions, may extend to the adenoid basis of the pharyngeal mucous membrane, so as to enlarge the limits of this tonsil to the level of the inferior border of the soft palate. We should bear this in mind, as it will assist us in understanding why removal of the hypertrophied tissue about the so-called pharyngeal tonsillar space does not give the patient relief from the symptoms usually referable to the hypertrophy of the third tonsil.

There are no more interesting problems connected with

the study of throat diseases than those of the rise and wane of adenoid hypertrophies. Some great law of the human economy determines the possibility during the first few years of life of adenoid hypertrophy, allows this hypertrophy a term of years, when, judging from appearances, there is about an equal chance of growth and atrophy; then comes the time after which permanent hypertrophy, as the result of inflammatory changes, seems impossible, a time when atrophy to disappearance of the already hypertrophied adenoids is the rule.

It is not the purpose of these few remarks to consider the relative parts that inherited and extraneous influences play in determining the degree of adenoid hypertrophies, and how they modify the chances of immediate relief as the result of operative interference. One point only is here to be emphasized; viz: *It is rarely the case that hypertrophic changes affecting the naso-pharyngeal lymph tissue confine themselves to the region of the so-called third tonsil.* These changes also occur in the adenoid basis of the whole mucous membrane as it covers the posterior wall of the naso-pharynx; these changes are especially noticeable in the lateral lymph chains of the upper pharynx, where they attain often considerable size. At times these hypertrophic changes remain visible in the lateral lymph chains after they disappear from the third tonsillar region. With this latter condition may be compared the hypertrophic lymphatic masses which are sometimes seen projecting from the anterior surface of the posterior pillar of the fauces, while there may be little or no visible hypertrophy of the faucial tonsils themselves. It is, then, to these changes in the adenoid basis of the pharyngeal mucous membrane and to the presence of hypertrophies of the lateral lymph chains that must be attributed oftentimes our failures to relieve postnasal catarrh in young subjects with adenoid tissue in the naso-pharynx, even after we have removed the so-called third tonsil. In the removal of the third tonsil there are certain points to remember. It is advisable to remove the larger masses. It is inadvisable to remove them so closely to the pharyngeal

wall as to in anyway injure the pharyngeal aponeurosis. We must bear in mind that nature has covered the upper pharynx with mucous membrane, which serves a definite purpose in the economy; that we can destroy this membrane with its subjacent adenoid basis, and by so doing cause a "dry vault," a possible very unpleasant result of too vigorous operative interference, and one destined to give the patient very annoying sensations for a time more or less long. It is important to remove these lymphoid masses as thoroughly as possible when they are developed in the cul-de-sac below the Eustachian tube-mouth. It is sometimes advisable to remove the hypertrophies along the lateral lymph chains; this is much more difficult to accomplish, even in the adult, than removal of any portion of the third tonsil; and it is difficult chiefly because of the tendency to contraction of the palatal muscles. In very young children it is advisable to content ourselves with the removal of the larger masses of this hypertrophied tissue. Indeed, in these cases, the small size of the naso-pharynx, and especially where there coexists hypertrophy of the faucial tonsils, anything like a complete removal of the hypertrophied lymph tissue of the naso-pharynx is practically impossible. Sometimes cases like the following present themselves:

Mr. X., aged 23, has for an indefinite time "had a naso-pharynx." Examination of this space shows it to be roomy, indeed, it looks as though from some cause or other there had resulted more or less atrophy of the sub-mucous tissue: the lateral lymph chains show no hypertrophic changes; the third tonsil is larger than it normally should be, but has withal a shrivelled appearance; is situated centrally with no adhesions to the Eustachian tube-mouths. In this condition the pharynx is a source of more or less constant annoyance to the patient, an annoyance which will in no degree be diminished by removal of the slightly enlarged third tonsil; indeed, in this case, the annoyance is likely to be increased by operative interference.

We have here a hyperæsthetic condition of the naso-pharyngeal nerve endings, brought on by whatever physical condition has caused the atrophy of the naso-pharyngeal adenoid tissue.

In these cases, I have found local applications to be of but little benefit. The patient's general health demands attention, and the supersensitiveness of the naso-pharynx decreases just in proportion as the general health increases ;

And the course to pursue in those cases where there exists a hypertrophic condition of the adenoid basis of the post-nasal mucous membrane, giving rise to annoying catarrhal discharges after the removal of the hypertrophied third tonsil? Surgical means can no longer be resorted to. Washes and sprays give some temporary alleviation. No patient will submit to an indefinite course of astringent or caustic applications that might be suggested as offering some possible hope of finally bringing about a cure. Doubtless, applications to the surface of the mucous membrane of the naso-pharynx in these cases do have some slight beneficial effect, but one cold in the head, or a slight pharyngitis, will undo in a day all the good local applications have accomplished in weeks. We must bear in mind, in these cases, that the excessive mucous secretions from the naso-pharyngeal wall are but indications of the hypertrophic condition of the adenoid basis of the mucous membrane ; that so long as this hypertrophic condition persists with its accompanying obstructions to the proper functions of the adenoid layer through congestion, just so long are these excessive secretions necessary. We must remember, that simply washing the surface of an hypertrophied tonsil does not produce any appreciable effect in diminishing the size of the tonsil ; that the destruction of the white cells forming the lymphoid hypertrophies, and the production of connective tissue cells, which in turn contract, are inflammation changes, and, save under certain conditions, which will be considered at another time, are brought about by nature slowly, and in a way that, in the face of existing conditions, will cause the least possible permanent injury to the adenoid layer and its dependent tissues. Fortunately, like all provisions of nature, these, and they may be called absorption, changes occur, in greater part, during the years of life, when they give the least possible annoyance to the patients in whose throats

they are taking place; *i. e.*, during the years of childhood. Where these absorption changes remain at the years of maturity sufficient in degree to be the source of much inconvenience to the person in whose throat they are taking place, it becomes our duty to take into account the patient's past history, the effect on these tissues of intercurrent diseases, the present habit of life, and general health of the patient.

[TO BE CONTINUED.]

A Note on the Loss of Vision During the Growth of Retro-Ocular Tumors.

S. M., aged 8. Appearance early in October of a growth in the inferior cul-de-sac of left eye. Patient was taken by her parents to Baltimore, where the *latter* part of the month operation was done for the removal of the tumor, an incision being made through the skin along the lower border of the orbit. Growth proved to be a sarcoma. Four weeks after the operation, recurrence of growth was noted. The increase in size of the tumor was so rapid, that ten days later—*i. e.*, within less than six weeks after the operation—it was sufficiently large to cause such a protrusion of the left eyeball that the plane tangent to the corneal summit of the left eye was half an inch anterior to a corresponding plane for the right eye. As far as could be made out by palpation, the greater mass of the growth was in the lower outer part of the orbit. But little motion remained to the eyeball. Pupil somewhat dilated. $V. = \frac{16}{200}$. Examination of the fundus revealed *immense dilatation of the veins*, with corresponding *contraction of the arteries*; *œdema of the retina more marked, however, to the inner than to the outer side of the optic disk*. It would seem that the mechanism producing this condition of the fundus, in some cases resulting in complete loss of sight, is as follows: The eyeball is forced forward, with comparative rapidity, several millimetres in advance of its normal position, exophthalmos resulting. There is, then, necessarily a strain on the optic nerve, or its sheath, or both. The continuation of the dura mater, which serves as a sheath for the optic nerve, is inelastic to a high degree, and very loosely adherent to the optic nerve, and besides, its retro-ocular origin is different from that of the nerve. As the retro-ocular tumor increases in size, the eyeball is forced forward; the sclerotic, *i. e.*, the continuation of the optic nerve sheath, being the part upon which the pressure is ex-

erted. If the optic nerve ceased just behind the optic disk, owing to the anatomical relationship of the optic nerve and the sheath, the strain would be felt almost altogether in the sheath, comparatively little in the nerve—the sheath slipping over the nerve somewhat as a glove over a finger. The optic nerve, however, expands into the retina. Pressure upon the sclerotic from behind causes a strain in the nerve sheath in the forward direction, while, owing to its different origin, the nerve resists the forward strain, and there is a tendency for the nerve and retina to be pulled backward, thus crowding into the already contracted optic ring more tissue. And while the adhesions between nerve and sheath and the anatomical provisions of the optic ring render the lines of strain more complex than they would seem from the above explanation, still, the obliteration of the retinal vessels is to be sought just here; that it is, in a great measure, due to strain at the optic ring, the pressure on the sclerotic forcing the ball forward, tending to contract the ring, while the resistance of the nerve tends to pull more nerve tissue into the ring, the result of this contraction of the optic ring being obliteration of the central artery and vein, œdema of retina, etc. The greater amount of œdema in the parts of the retina to the inner side of the nerve is to be explained by the direction of increase in the growth, and the well-known anatomical peculiarities of the retinal veins and arteries.

In this case a second removal of the growth, followed by the use of Coley's toxins of erysipelas and prodigious hypodermically was advised. Treatment declined.

On Unilateral Reflex Iridoplegia.—(Heddaeus, *Archiv. of O.*, Vol. XXIII, 1 and 2.)

Heddaeus offers, as explanation of unilateral reflex iridoplegia, that "the iris branch of the third nerve is composed of two roots—one from the sphincter nucleus, one from the accommodation nucleus. Destruction of the sphincter nucleus, or of the root arising from it, produces typical, unilateral reflex iridoplegia, together with a moderate mydriasis * * *." In distinction from reflex iridoplegia, I gave as a paradique of unilateral reflex blindness a case of left-sided embolism of the central artery of the retina. Both pupils are equally large, and respond equally with changes of illumination in both eyes, or with changes of illumination

for the right, healthy eye, but when light falls into the left eye no pupillary re-action follows.

With unilateral iridoplegia, on the contrary, the pupils differ in size, and when both are illuminated, only one pupil re-acts, and this one also responds to isolated illumination of each eye. Both pupils re-act with accommodation.

Operation for Glaucoma.

De Wecker advises the following operation in cases of glaucoma (*Annales d' Oculistique*, October, 1894):

The operation is called combined sclerotomy. Instillations of eserine and cocaine. With his *couteau à arrêt*, he enters the sclera one millimetre from the corneal margin. Point of penetration, the prolongation of the vertical diameter. The aqueous is allowed slowly to escape. A very fine pair of iris forceps are now introduced into the anterior chamber. The ends of the arms of the forceps are carefully removed so as to avoid the possibility of scratching the iris or cornea. When the extremities of the closed arms have appeared in the anterior chamber for the distance of two millimetres, the forceps are opened, the iris is seized near the periphery, and the part seized is pushed very slowly along the posterior surface of the cornea, towards its centre, until the adherent border of the iris has been detached to an extent of six or eight millimetres. A considerable hæmorrhage ordinarily announces the detachment, and the field of operation may become covered with blood. We must not forget to withdraw the forceps *open*. An instillation of eserine completes the operation.

This operation, says *De Wecker*, is called for, inasmuch as the ideal antiglaucomatous operation is to be found in a large scleral incision, combined with an iridodialysis, running the length of the cicatrix established in the pericorneal connective tissue.

This operation may have its advantages in certain cases, but in many cases of glaucoma it cannot take the place of combined sclerotomy and iridectomy, as done with the small cataract knife.

Department of General Surgery.

Conducted by STUART MCGUIRE, M. D., RICHMOND, VA.

One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital;
Professor of Principles of Surgery in the University College of Medicine, Richmond, Va

Is the "Germ Theory" a Fallacy? Views of a Surgical Infidel.

The Buffalo Medical and Surgical Journal for December, contains an article by Mr. Lawson Tait, which was read before the Birmingham and Midland branch of the British Medical Association, October 11th, 1894, entitled "A Criticism of the Germ Theory of Disease based on the Baconian Method." At the outset, Mr. Tait says, he wants to remind those persons who now sneer at his views as those of a mere practitioner, that for twelve years he was a hard working, and enthusiastic microscopist, and that during that time, he discovered one of the most selective methods of coloring tissue, and was the first man to show that fresh tissue of the greatest delicacy, could be cut less than a thousandth part of an inch in thickness. He wishes to recall the fact that he unraveled the minute anatomy of the umbilical cord so completely, that not a single fact has been added to or taken from his description during the eighteen years which have elapsed since its publication.

Mr. Tait says, that when he entered college the cellular pathology was sweeping all before it, and everybody was mad after a new cell, special courses, and special teachers were told off for cellular instruction, and a cellular pathology grew up, which was to explain everything. Two parties existed, and of course, fought bitterly, and the only real and permanent effect was, that the unhappy students had to meet two sets of examiners, and to know two sets of answers to the same questions.

With the improvement in the method of making sections, curious little bright points in quivering movement were seen between the cells, and were called "vibrating molecules." A molecular pathology grew up, but died with its one exponent. Finally the microscopists have resolved these

vibrating molecules into a vast array of little beasts, and promulgated a "germ theory" by which everything is explained, and under which everything is squeezed. It is no theory at all, but simply an amusing hypothesis, consisting of a series of interesting facts, misconstrued alike in importance and direction, and quite incapable of co ordination or practical application.

Mr. Tait says, the fact that the origin of certain diseases is due to a poison, has always been recognized, but the suggestion of the immediate machinery has curiously varied.

The ancient Greeks and Hebrews believed that disease or a plague was a blow from an offended deity, and the Christian's favorite doctrine was, that it was a visitation from the Devil; for both, the modern scientist has substituted the microbe, which is no logical advance over the belief of either. The ancient Jews were very practical, business-like, and honest people, and could have written sanitary articles in medical journals much better than some of their descendants of the present day do now. They knew the facts of sepsis, and had most elaborate schemes of antisepsis, whose stringency of detail were not much more ridiculous or probably much less satisfactory than many of those which have emanated from Lister himself.

Mr. Tait says, the "germ theory" originated from a supposed analogy between the processes of decomposition and disease. The law of decomposition has long been known; given a solution of organic compounds maintained at a certain temperature to which air has access, it will decompose. Pasteur added the fact that the process was always in the presence of, or on account of numerous minute organisms, which are capable of propagation. Pasteur did not invent a hypothesis, he did not formulate a theory, he did not establish a law, he simply added facts. The microbic theory of decomposition is untenable as is shown by the homely instance of well made jam. Here he says, "let me remind you of the essence of inductive reasoning in Bacon's own words—a rule which has never been successfully evaded: 'The form which is sought can be detected only

by a process of exclusion, by which we find a phenomenon constantly present, when the effect is present, absent whenever the effect is absent, and varying in degree with the effect. Such a phenomenon would be the form in question, the cause of the given effect or attribute.'” According to this salient definition, is the *causa causans* of decomposition the microbe? Most certainly not. Therefore we can have no microbe theory of decomposition. But if we proceed on true Baconian lines, we find that not only are the phenomena of decomposition not those of disease, but there is absolutely no analogy between them. Some appearances of analogy there are, but they are easily destroyed by careful examination. Take the huge carcass of an ox, let it lie in the field till the phenomena of decomposition are observed beneath the eyelids. At the same time, the same changes will be found active in the pericardium, though all possible communication by the blood current between two such remote spots has been destroyed. The spores of germs of decomposition are always present in our body, and they commence their victory as soon as death occurs. Throughout the whole nomenclature of disease, there is none which affects the whole mass of the living body at once, and at a blow, as does decomposition.

Mr. Tait says that he has followed the researchers on the bacillus of tubercle with great care, because he had objected to a group of cases of abdominal diseases being designated as tuberculous peritonitis. Opening and draining these cases cures the majority of them, and in the characteristic tubercles in a great many of his own cases, the bacillus tuberculosis has been found, while in others it has not. Many of the former have recovered, while some of the latter have ultimately died of the advance of the disease. Hence he concludes that while the bacillus of tuberculosis may be a product of the disease, it is not its cause.

Mr. Tait says that ten years ago, electricity was unfortunately revived as a remedy for diseases, and that this time it was directed to the affections in the female pelvis, and that we were told that inflammatory effusions, purulent

inclusions, and solid tumors had melted away under the influence of the electrolytic current. His criticism of the proposal at the time was confined to the suggestion, that as inflammatory processes were pretty much the same wherever met with, he should be contented to believe the statement, and follow out the treatment, if he saw it applied successfully to a whitlow or ganglion of the wrist, and he now proposes that the same kind of test be put to the "germ theory" in the field of dermatology. Here the great bulk of the phenomena of disease are under the naked eye, and can be supplemented by simple, harmless, and perfectly justifiable experiments, and it is most disappointing to find that the whole result of previous investigation consists in numerous changes of nomenclature, and a blatant advertisement of nostrums. The skin doctors have ranged themselves into two camps, germists and anti-germists. They have quarreled with each other like gynecologists, and have settled nothing.

Mr. Tait goes into a long dissertation on typhus fever, which he claims is not due to a germ, but to overcrowding. He states that typhus is practically unknown wherever the population is below one hundred and fifty to the acre, but occurs with certainty when it is over two hundred. He says that typhus arises *de novo* upon appropriate provocation, and is speedily killed by cleanliness, and an abundant supply of fresh air, which facts are in his opinion contradictory to the "germ theory."

Mr. Tait says: "It is probably the germ of some very ordinary fungus, sporting with deadly growth from the pabulum afforded by the crowd—a suggestion made to me by the late Charles Darwin. At any rate, in this case the fulfilment of Bacon's canon is complete. The phenomenon, a population above a certain density, is always present when the effect, typhus fever, is present. It is universally absent when typhus fever is absent; and the effect, typhus, varies in degree with the degree of overcrowding. The phenomenon overcrowding is, therefore, the form in question, "the cause of the given fact or attribute." Littlejohn's facts and

figures prove the law of the appearance and existence of typhus; the law of its variation, and they have established the fact of its extinction. You may as well establish a germ theory for this awful disease as for a leg of cold mutton."

Mr. Tait then takes up the application of the germ theory to the practice of surgery, and says that Lister, from his laboratory experiments, knew that a single spore admitted into a sterilized flask was quite sufficient to produce decomposition in appropriate contents, and permeated by a false analogy, he concluded that a single germ was equally potent in a surgical wound. Mr. Tait says, that being a very clumsy barber, he has no doubt that he has implanted myriads of germs in fresh wounds inflicted on his face while shaving; that no septic results have followed in his own case or in thousands of his fellow sufferers. He ridicules the technique of antiseptic surgery, and uses as illustrations of its absurdity two articles recently published in America. In one, the author says that he divides the umbilical cord about two and one-half inches from the abdomen, wipes the abdomen and the cord with a bichloride solution, firmly secures it with a sterilized ligature, and touches the cut end of the cord with a bichloride tablet.

"Sterilized gauze, sterilized bandages, and a properly sterilized cradle and nurse," says Mr. Tait, "secures the recovery of the germ-endangered baby, and no doubt a formal operation fee is charged after the danger is all over."

The other writer quoted gives minute directions for sterilizing the hands, instruments, ligatures, and dressings for the operation of lacerated perineum. Mr. Tait states that he has done the operation about fifteen hundred times, and has observed none of the directions, nor used any of the measures advised by his American friend, and yet the statistics which have been published prove that his mortality is less than that of his antiseptic rival, as one is less than two hundred and fifty. Mr. Tait says that some may say that neither the division of the umbilical cord, nor the repair of a damaged perineum, are sufficiently serious

operations to make any mortality at all. If such be the case, there can be no truth in the alleged germ theory; for the logical deduction of that theory is, that the entrance of the germ or germs into any wound whatever is capable of producing systemic septic evils and death.

Mr. Tait says that he has done a great deal of operative work, and has never used anything but absolute cleanliness; yet his published statistics have not yet been contravened or beaten in their record. He says he has challenged Sir Joseph Lister over and over again to compare statistics with him, but he has ignored him with a lordly indifference. He says that the details of Listerism change with marvellous rapidity, and before they are six months old are pronounced failures, and are replaced by something new. The last of all these numerous phases is the disuse of chemical destroyers of germs, and the abandonment of antiseptic surgery, and the adoption of aseptic surgery, which is nothing but perfect cleanliness, which Mr. Tait has been preaching for years, and, forsooth, this is, then, the newest Listerism.

Mr. Tait says that, after his early experience in surgery, it is a wonder he ever stuck to it; that, during his pupilage in Edinburgh, he saw thirty abdominal tumors removed without one single recovery, and, when he left the land of his birth, it was with one fully made resolution—that he would never open an abdomen. In Edinburgh, if he saw the amputation of a thigh in the Old Infirmary on Wednesday, there was a strong probability that the following week he would see the bared bone sticking through the anterior flap. If a breast was removed, an erysipelatous reddening of the flaps would very probably occur on the following day, and would be half way around the chest before the week was out, and the wound gaping, and everything going to the bad. He left Edinburgh, and has been engaged continuously for the past twenty-eight years in making wounds, and he has never seen a case of erysipelas in his own practice. This improvement lies in the separation of patients,

plenty of cubic space and fresh air, and is in nowise the result of chemical germicides, which he never uses.

Mr. Tait says that it was Simpson who cried out most loudly for better ventilation and cleanliness, and against the use of dirty hands and sponges, and that he has been dead hardly these five and twenty years, and all his splendid work is as much forgotten as if it had never been done, and the glorious progress which has come out of it is given to a theory, which is not theory at all, but a phantasm, a system which has been proved an inconstancy and a broken reed, a thing which yields at every blast, either to scholastic logic or eclectic experiment.

As a surgeon, Mr. Tait stands pre-eminent, but he is amusing as a scientist, confusing as a logician, and abominable as a writer.

The epitome of his article just given has been laboriously dug from confused verbiage, and enucleated from digressions on electricity, dissertations on Baconian logic, enumerations of his personal success as an operator, and abuse of men who oppose his views.

Mr. Tait recognizes the existence of a poison which produces disease, but refuses to admit that it is of a microbic nature. He insists upon the importance of cleanliness and upon the avoidance of contaminating wounds with dirt, but fails to say of what the latter consists. He prefers to deal in generalities, to speak of contagion as a condition, not as an entity. If it gratifies him to call by the name of dirt what his more advanced contemporaries have resolved into micro-organisms, it is a weakness of his brain, which should be pardoned on account of the cleverness of his hands. If, in practising cleanliness, Mr. Tait has practised aseptic surgery, so much the better for Mr. Tait; but he did it instinctively, purposelessly, not scientifically; and to have expected others to follow his example, for which he could give no reason, would be as illogical as to expect fruit from a tree which had no roots, or water in a brook which had no source.

The followers of Lister have, in the past, been guilty of many absurdities, and in their ranks are still found theorists who ride their hobbies hard. Many apparently contradictory facts still remain unexplained, and the results of experiments, which seem diametrically opposed, have still not been reconciled, but all this will be remedied in time. When germs can be examined microscopically, can be differentiated by their appearance, can be cultivated in the laboratory, and can have their effect, when introduced into a healthy organism, accurately foretold, the science of bacteriology is not a farce. When a germ fulfills the requirements of Koch; when it is invariably found accompanying a certain disease; when it can be cultivated from the tissues and bred in test tubes; when it can reproduce disease if inoculated into a second animal, and is again found in the inflamed part, it certainly would seem, to a reasonable mind, that it has a direct etiological relation to the disease.

It is, of course, impossible to demonstrate positively the truth of the "germ theory," but such is the case in many other branches of science, and is, therefore, no reflection upon medicine. No one would question for a moment the assumption of the truth of the "Atomic Theory," and yet, without that basis upon which to build, the proud structure which has been erected by the chemists would fall into chaos. It is impossible for the Christian to demonstrate the existence of a Deity, and yet, without the faith inspired by their belief, civilization would totter and barbarism would return.

The magnificent achievements of modern aseptic and antiseptic surgery amply refute his attack. Whether the "germ theory" be a fallacy or not, the faith inspired by its principles results in the application of methods which prevent septic complications, and is of untold benefit to mankind.

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

Multiple Sarcoma of the Skin.

Through the courtesy of one of my colleagues, I have been enabled recently to present the following case to my class at the Southern Medical College.

The patient, a negro man, 40 years of age, of robust constitution, was sent from Mississippi to undergo amputation of the thigh for disease of the right lower extremity. The case was considered inoperable. The disease began three years ago as a subcutaneous nodule about the size of a pea, just below and to the inner side of the right knee-joint. The nodule increased slowly in size, the skin over it ulcerated, and gave rise to a fungating mass. This was removed. Subsequently, there appeared a number of other nodules upon the leg and the foot, which acted in quite the same manner as the first, ulcerating and fungating. This has been the history up to the present. On examination, the right leg is seen to be enlarged, and the skin beset with innumerable nodules, varying in size from a pea to an egg; they are more numerous on the dorsum of the foot. The latter is very much enlarged, the skin infiltrated and fissured beneath the toes. There is an offensive, straw colored discharge from the fissures, which dries in yellowish crusts. At a point corresponding to the metatarso-phalangeal joint of the great toe, a number of the nodules are united together and ulcerating. The foot is very painful and tender. The nodules on the legs are somewhat soft and elastic and painless. Immediately beneath the inner side of the knee-joint, at the point of insertion of the muscles of the "goose-foot" insertion, there is a pedunculated tumor, as large as a hen's egg. The pedicle is short, and of small diameter. The skin over this tumor is so far unaffected. There are a number of small nodules on the inner side of the thigh below the fold of the groin. The glands were nowhere enlarged. I diagnosed the case as one of multiple sarcoma of the skin. The case bore some features of resemblance to mycoris fungoides, but there was no enlargement of the lymph glands; the nodules, when they had reached the acme of development, were quite

painful, and the fungoid element was not as marked as we would expect to find in this affection. The resemblance was limited to that form of mycoris fungoides described by Kaposi, which begins as a nodule, is confined to one portion of the body, and which presents no pre-mycotic itching and scaling.

The case was reported before by Dr. Stockard, then of Columbus, Miss., but now of Atlanta, as one of sarcoma cutis. He had used methyl blue subcutaneously with some success. Köbner, Lassar, and others, have reported good results from the use of Fowler's solution hypodermically, beginning with min. iv., to be increased to min. vj. This was the treatment recommended in this case. I should not be surprised, however, if it prove of no value.

This case presents some features of interest. The comparatively slow growth of the original lesion, and the subsequent rapid evolution of fresh neoplasms, is of interest as exhibiting the highly infective character of the process after being well established. The fact that, though the nodules were extremely numerous, fungoid manifestation and ulceration quite marked, these changes were limited to the right lower extremity, and have shown no tendency, after three years, to advance beyond this region; and that there has been no lymphatic involvement.

New Classification of Eczema.

Dr. Martin F. Eugman, in a paper in the *Medical Record* for December 22d, 1894, gives some hints on the treatment of eczema, classifying the latter according to its etiological factors, as far as ascertained.

Eczema is a word applied to a class of skin affections, of which we know too little. The present classification of eczema into acute and chronic, with the subdivisions of vesicular, papular, and pustular, together with regional subdivisions, gives us some forty different forms. For one not familiar with these technical terms, such a classification is confusing, and the author proposes, for the purpose of simplification, to divide eczema into two general classes—any form may, of course, be acute or chronic, according to

duration: 1. Neurotic eczema; 2. Irritative eczema. (a) Caused by irritants from within the body (internal); (b) Caused by irritants or poisons from without the body (external).

The first class (neurotic) is defined as a catarrhal inflammation of the skin produced by reflex or neurotic causes. It is symmetrically distributed, more or less in the course of nerves, has marked exacerbations and remissions, occurs mostly in children, but also affects adults. The disease is characterized by papules rapidly changing into vesicles, which rupture easily and discharge freely. The crusts are very thick and rough. The disease occurs more or less in patches, from an inch in diameter to covering a whole limb. The patches are rather sharply defined, with vesicles and papules at the periphery. There is great pruritus, and from inoculation by scratching, the crust soon becomes very black from dirt and micro-organisms. On removing the crusts, the surface beneath is seen to be red and weeping, and the discharge rapidly re-forms crusts. Punched-out ulcerations are often seen on removing the crusts.

The disease usually affects the external surfaces of the extremities and the head and face, but may occur anywhere. In children, we see it mostly in the head and face, occupying the cheeks and chin, but leaving the region around the mouth perfectly free. There is very little thickening of the skin.

In adults, neurotic eczema occurs in the form of transient, itchy, and troublesome vesicles, with possibly a little scaling.

If each case of symmetrical eczema answering to the above description be carefully studied, one will find exacerbations and remissions occurring with some derangement of the health, maybe some slight thing, but will re-act powerfully reflexly. Such reflex causes are dentition, numerous bowel disorders, as constipation, diarrhœa, and adherent prepuce. In women, we have the disease occurring with menstrual disorders and ovarian troubles. The treatment is

aimed at the correction of any such disorder as may be discovered in the economy; and locally such remedies as will allay itching, influence the vessels, prevent crushing, and lessen the discomfort of the patient. Such remedies will be found in sedative astringent applications.

2. Irritative eczema is a catarrh of the skin, produced by poisonous or irritative influences (*a*) from within, as those occurring in Bright's disease, in rheumatism and gout, cirrhosis of the liver, and other biliary diseases; ptomaine poisoning and disturbances of the chylipoetic system; (*b*) from without which are parasitic in origin. This form presents some characteristic differences from the foregoing. External irritation, mechanical or chemical, is the most important determining factor. The disease occurs on the instep or ankle as a result of irritation from the shoe; on the neck, from the collar or shirt, etc. The clinical symptoms are sufficiently marked to distinguish this type from the ulcerative, yet they are not widely different in their ensemble. The disease may occupy any part of the body. It is indolent in character, the disease starting with wild itching, or burning, gradually increasing in intensity to papulation, vesiculation and weeping. The outbreak is not acute and violent, covering large areas at once. The patches are not sharply marked, but fade off into the healthy skin. Itching is moderate. The impetiginous element is rare, and the discharge does not form thick, dirty, pustular crusts. The crusts are thin and moist, of yellow color and easily detached, leaving a red, weeping surface. There is generally thickening of the skin from the beginning, which increases more rapidly than in any other form of eczema. The infiltration gradually fades off into the healthy skin, and can readily be made out. The whole tendency of the process seems toward a subacute or chronic type. The principal points of difference between this and ulcerative eczema are: 1. Location, not following at all the course of nerve distribution; 2, the patches are not sharply circumscribed; 3, there is more of a burning sensation than itching; 4, the

crusts are yellow and moist, not dry and thick; 5, the skin is infiltrated; 6, the indolence of the process; 7, it is found chiefly in adults and those who have passed middle life. The treatment of such inflammatory conditions is both internal and local. The general health of the patient should be carefully inquired into to detect the presence of Bright's, rheumatism, gout, or other constitutional disorders.

The second subdivision of irritative eczemas, those caused by external irritants, is a comparatively new field of study. With this class are included the parasitic eczemas. Trade eczemas should be classed with simple dermatites. The parasites have not been isolated as yet, but there is good clinical ground for a belief in their existence.

In this class would be included the eczema seborrhoicum of Unna. This disease, which, according to Unna, is due to the invasion of the morococci, begins as a dry dandruff of the scalp, and from thence extends to other regions. The eczematous patches may vary from a small, greasy, yellow patch to one of intense weeping, with highly marked inflammatory symptoms. The patches are sharply defined, varying in size, with abrupt borders. The patch is covered with yellow, greasy scales, easily detachable. It spreads peripherally, tending to clear in the centre, therefore one or more patches may coalesce, forming patches of various shapes. Its favorite location is on the neck, face, back and chest, but may occur on any portion of the body. There is not much itching unless the patient is overheated. The disease is generally superficial, without marked thickening of the skin, but often there are patches of infiltration which resemble a psoriasis lesion.

Another type of parasitic eczema is that first pointed out by Dr. George T. Elliot, of New York. The disease is usually located on the leg, but may also occur on the hands. It usually consists in well-defined red patches, varying in size, slightly scaly, with a few scattered papules. The borders are sharp, and the horny layer can be pulled off in large thin laminæ. There is very little itching or burning. The patches spread peripherally, several may coalesce, but there

is generally only one or two in a locality—the disease spreading from these over an arm or leg in a more or less serpiginous manner. In milder cases, there is a slight tendency to heal in the centre, leaving a slightly yellow pigmentation. The disease is generally very dry, and, unless much inflamed, is very little scaly. The favorite location is on those parts most exposed to external influences, hands, arms, legs, and feet. It can be readily distinguished from seborrhoeic eczema by 1, color of the patches, which is red, while that of seborrhoeic eczema is yellow; 2, the scales are dry and not yellow or greasy; 3, the characteristic undermining and splitting up of the epithelium.

The disease is undoubtedly parasitic from its clinical manifestations, and is readily cured by proper anti-parasitic remedies.

This article embraces the most recent views of eczema, and is well worthy of careful perusal. I regret that I cannot give it entire.

Habits of Gonococci.

As the result of a long series of experiments, Ernst Finger and others of Vienna, submit the following conclusions: The gonococcus in gonorrhœal pus remains active and virulent as long as the pus is not entirely dried up. Gonococci suspended in water lose their activity in a few hours. Gonococcus cultures, when brought in contact with ordinary antiseptics for two minutes, do not lose their activity. Inoculation proves that the gonococcus is the undoubted excitant of the blenorrhagic process. A declining blenorrhœa leaves behind no temporary immunity against their infection. An existing urethritis, with or without gonococci, does not hinder reinfection. The blenorrhagic process is capable of reinfection and superinfection. Gonorrhœa, developed from inoculation, does not extend to the *pars prostatica* before the beginning of the fourth week. Injection of pure cultures of gonococci into the knee-joint of animals developed an acute rapidly subsiding arthritis, in which an increase in the number of the gonococci could

not be established. The same, introduced into the abdominal cavity of animals, produced an acute transient peritonitis, limited to the neighborhood of the operation wound. There was no apparent increase of gonococci.

Febrile processes greatly reduce the susceptibility of men for gonorrhœal infection. The action of the gonococci on the tissue of mucous membranes, their adnexa, and particularly their epithelium, is essentially different. Upon mucous membranes, with pavement epithelium, the gonococci lie superficially. Cylindrical epithelium offers no resistance to gonococci, and they penetrate rapidly into the connective tissue.

In the urethra, the gonococci invade with equal rapidity the lacunæ and the glands. By entrance into bloodvessels, the gonococcus becomes the cause of different articular, periarticular, and perichondrial metastases, showing a preference for protoplasm of the pus cells. Spread out in the connective tissue, the gonococci can determine a true suppuration.

Proceedings of Societies, Boards, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

[December (1894) Meeting.]

Discussion on Dr. Mayfield's paper [page 1078].

Report of a Case of Hydrophobia.

Dr. Sothron: Had seen a dog bitten by another that suffered from hydrophobia. The same symptoms were present as would be found in man. There were listlessness, the eyes were glairy, he would snap at anything within reach, salivation was present, and the respirations were quickened. The dog died in a few days of asthenia.

Dr. Bovée: Doubted the danger from the bite of skunks. He had been bitten by these animals numbers of times without experiencing any trouble; also, a number of his dogs had been bitten, and in none did rabies develop. An English mastiff of his had in some way developed rabies.

The dog would bite and snap at anything within reach; he wandered around the yard, endeavoring to get in the house. The eyes were glossy, but not congested; the mouth would discharge; this, at times, was mixed with blood. Very probably the blood came from wounds inflicted by hard or sharp objects which he would bite. There was no sweating. The animal was shot.

Dr. J. W. Shaw: Did not believe in the existence of a mad-stone. In Virginia, had seen a woman apply one; this would stick. The symptoms of hydrophobia may be delayed in manifesting themselves. In Philadelphia, there was a case brought to the hospital who had been bitten by a rabid animal fourteen or sixteen months previously. In this patient, the saliva was supposed to have become encysted.

Dr. J. D. Morgan: Had witnessed experiments in Paris in which inoculations were made almost immediately after the infliction of the wound by rabid animals. The inoculations were made from the spinal cord, and produced rabies in other animals. The poison rapidly permeates the system, and is not localized in the wound. These experiments would entirely dispel any positive claims made by persons believing in the efficiency of mad-stones, as not even these would claim any but a local action for the stone.

Dr. E. L. Morgan: Enquired where all the mad-stones came from, and stated that in cases where great success followed their use, they were not hydrophobia, but merely hysterical symptoms. He had seen stated, that from man to man there was no danger of inoculation, but that from man to dog there was danger. He attached as much importance to the use of mad-stones as to rubbing a horse-shoe over the seat of injury.

Dr. Mayfield: Had seen no reference to the case mentioned by Dr. Eliot. In regard to mad-stones, he had seen many sarcastic remarks. The bites of wolves are most dangerous; those of skunks, even when not rabid, are dangerous. Few persons arrive at the age of ten years without being bitten or scratched by dogs, and were hydrophobia as common as the public would believe, many more cases of rabies would be reported. During twenty years, but three cases are reported as occurring in the District of Columbia. Not more than fifty per cent. of those bitten by rabid animals develop hydrophobia. The mad-stones are porous, and supposed to draw the poison from the wounds, but this

is ridiculous; and he would venture to state that were an advertisement made for a stone, in a few hours dozens would be presented of all shapes, colors and prices. In the patient reported by him, there was entire absence of salivary secretion. The period of incubation is shorter in dogs than in man. There are two forms of rabies in dogs—paralytic and violent. In the former, the initial stage of depression passes directly into the paralytic condition; while, in the latter, the paralytic is preceded by the furious stage during which the animal runs about snapping at everything and everybody that comes in its way.

Discussion on Dr. John Shaw's paper [page 1088] on

The Salicylate Treatment of Rheumatism.

Dr. C. Mayfield: During his incumbency at Soldier's Home, he had seen many cases of rheumatism, and never experienced bad effect from doses of ten grains. Thinks four days about the average time. Salicylates will manifest their good influences, though he has had good effects after this time. Generally the salicylate of ammonia is the preparation he uses; this he prepares extemporaneously by a prescription of equal parts of salicylic acid and carbonate of ammonia. It may be due to the use of the ammonia salt that he has enjoyed freedom from the reported bad effects of salicylates. Recalls one case of general involvement of the joints in the acute rheumatic process, where the resulting relief in twenty-four hours was almost miraculous.

Dr. L. Eliot: Dr. Shaw advocates doses of forty grains per diem; his experience would show that such doses would cause kidney and stomach trouble, and had caused him to abandon the salicylates. During the epidemic of small-pox, in 1880, he used salicylic acid and soda, as advocated by a Frenchman, to prevent pitting; in these cases the kidneys were completely blocked. In another case he had used two grains four times daily, and was discharged on account of head symptoms. As a limit he used ten grains per diem.

Dr. E. L. Morgan mentioned a patient that had been complaining for some days previous to his attendance of pain in chest, over the heart, in the abdomen, and left knee-joint. The joint was slightly swollen and warmer than the right one; night-sweats and purulent expectoration; pulse 80; temperature, 99°; very nervous temperament, and much depressed. Gave fifteen grains of salicylate of soda every

two hours, preceded by half an ounce of Rochelle salt. The following morning he was hastily summoned, and found patient in collapse; she had taken one hundred and five (105) grains of the salicylate during fifteen hours. Brandy, digitalis, strychnia, and atropia were fully administered. A few hours later death occurred. He had often given larger doses of the salicylates without serious results. The menstrual flow had ceased three days before, but returned while taking the drug. As no autopsy was allowed, he was unable to determine whether death was due to the salicylates.

Dr. J. W. Bové used the salicylatis and phenacetine, and experienced no unpleasant symptoms; combines frequently bicarbonate of soda and salicylic acid. Considers two-and-a-half (2½) grains plenty, and would look for no bad symptoms from this dosage.

Dr. J. D. Morgan: Severe cases of rheumatism are not cured by the salicylatis alone; he combines it with soda or an alkali. Statistics show a larger number of complications with salicylic acid than by the combination with alkalies.

Dr. J. W. Shaw: Would add nothing to his paper; thought Dr. Eliot had come across an unusually bad lot of patients that he should have had such unfavorable results.

Book Notices.

Syllabus of Gynecology Based on The American Text-Book of Gynecology. By J. W. LONG, M. D., Richmond Va., Professor of Gynecology and Pediatrics in the Medical College of Virginia, etc. W. B. Saunders, Philadelphia, 1895.

This Syllabus, arranged in conformity with the "American Text-Book of Gynecology," will meet with hearty approval from all those who have read that exceedingly exhaustive and practical work. It is, in fact, a valuable supplement to the larger work, and the author deserves the thanks of the profession for its thorough and systematic preparation. The different subjects are carefully arranged and grouped in tabular form, and the author, while adopting the classifications of the Text-Book, has not hesitated to express his own views derived from his extended practical experience, whenever occasion in his judgment, required it. The

chapter on Ectopic Gestation is a very thorough resume of the Text, as well as a most concise and terse collaboration of the latest and most approved views on this interesting subject. This Compendium as a whole will prove of exceptional value not only in the Lecture Room, but also to the general practitioner as a convenient reference and aid in diagnosis. Such eminent specialists as Drs. Emmet, McMurtry, Penrose, Byford, Skene, Opie and others have already given it their endorsement, and Dr. Howard Kelly commends it as "filling a much needed place for the man who wants to get the gist of the subject in a short time, particularly before going to an operation."

System of Legal Medicine. By ALLAN McLANE HAMILTON, M. D., Consulting Physician to the Insane Asylums of New York City, etc., and LAWRENCE GODKIN, ESQ., of New York Bar. *With the Collaboration of TWENTY SEVEN LAWYERS AND DOCTORS. Illustrated.* VOL. II. New York: E. B. Treat. 1894. Royal 8vo. Pp. 738. Cloth \$5.50; Sheep \$6.50. (Sold only by Subscription)

We called favorable attention in our October number, 1894, to Volume I of this "*System*." Volume II is even more to be praised—so far as medicine is concerned. The descriptions are graphic, and the drawings or engravings are all excellent. Indeed, there are some plates or drawings in the book which are original, and are so perfect as to make them useful in description for works that treat of diseases of special parts. This Volume II treats of duties and responsibilities of medical experts, of insanity and crime, of aphasia and other affections of speech, of traumatic neuroses, effects of electric current, of birth, sex, pregnancy, delivery, etc. A very useful part is the *Appendix* which contains extracts from the laws of the different States and Territories of the United States, which relate to the general care of the Insane. The chapters on traumatic neuroses, etc., is specially valuable to the medical practitioner, so far as cause and effect are concerned, but of course does not take up the subject of therapeutics, etc. The publisher's part has been done in keeping with the great merit of the book. It is an altogether new work—new cases, etc., and is based on the facts and laws as understood at the present time. Because also of its dealings with American laws, etc., this "*System*" will now become the standard work in all the courts. The authors have a right to be proud of their great work, and be conscious of the appreciation in which it will be held by the medical profession at least.

International Clinics: *A Quarterly of Clinical Lectures by Professors and Lecturers in the Leading Medical Colleges of the United States, France, Great Britain and Canada.* Edited by JUDSON DALAND, M. D., Philadelphia, Instructor in Clinical Medicine, and Lecturer on Physical Diagnosis in University of Pennsylvania; J. MITCHELL BRUCE, M. D., F. R. C. P., London, Physician and Lecturer on Therapeutics at Charing Cross Hospital; DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Professor of Practice of Medicine in University of Aberdeen, Scotland, etc. VOL. IV, *Third Series*, 1894; VOL. II, *Fourth Series*, 1894; VOL. III, *Fourth Series*, 1894. Cloth. 8vo. Pages respectively, 352, 358, 369. Philadelphia. J. B. Lippincott Co. 1894. Price per Volume, Cloth, \$2.75; half Leather \$3. (Sold only by Subscription through regular Agents, or forwarded by the Publishers, express prepaid, on receipt of price.)

These standard volumes respectively represent the latest views on the subjects of which the lectures treat. In each volume, there are about forty lectures on different subjects, and some of the lectures are so valuable as to form lasting treatises in themselves. These *Clinics* include subjects in Practice of Medicine, Neurology, Pediatrics, Surgery, Genito-Urinary Surgery, Gynecology, Obstetrics, Ophthalmology, Laryngology, Otology and Dermatology. Thus it will be seen that the interests of no class of practitioners have been omitted. An annual subscription would secure a most valuable library, which is made available for ready reference by the addition of a quite thorough index to each volume, with a summary index in each fourth volume. Wherever photo-engravings, plates, figures etc., seem needed to illustrate the text, the generosity of the well known publishing company has caused them to be introduced. The work is issued in good style, and the type used is excellent. We look upon the *International Clinics* as about the most serviceable and authoritative serial publication which comes to our table.

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Original Communications.

ART. I. — Supra-Pubic Cystotomy for Stone in the Female,
Complicated by Vesico-Vaginal Fistula.*

By HUGH M. TAYLOR, M. D., of Richmond, Va.,

PROFESSOR OF SURGERY UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

Gentlemen,—I have to-day the opportunity of showing you a case of stone in the bladder, and, what is comparatively rare, a stone in the female bladder, and, what is equally rare, a stone in a negro. Stone in the female bladder is of infrequent occurrence. Why? Because the female urethra is short and easily stretched; consequently, when a renal calculus passes from the kidney to the female bladder, it finds easy egress through the short dilatable urethra; and for the same reason, fewer blood-clots and less mucus is retained in the female bladder to become nuclei of stone or to generate cystitis, which is the parent, especially of the phosphatic stone.

Of course, you know that stones are formed from the deposit of salts of urine which are not held in solution as they

* Clinical Lecture delivered in the University College Amphitheatre, February 8, 1895.

should be. The uric acid stone usually starts in the kidney—the phosphatic and oxalate of lime in the bladder. These three represent the most frequent types. The uric acid stone formed in the kidney passes to the bladder during an attack of kidney colic, and becomes the nucleus around which phosphates are deposited. The phosphatic stone forms very rapidly. Frequently, of course, the little uric acid gravel is washed out through the penis before it is enlarged by a deposit of phosphates around it. This happens more frequently in the female because of her short dilatable urethra, and hence her exemption from stone.

I do not think I have ever seen a stone in the bladder of a *female* child, and yet you know they are quite common in very young male children, even in little babies. I have seen only a few cases of stone in young female adults, and in a majority, I think in all such cases, some foreign body has been the nucleus. Several of them had hair pins as nuclei.

Stones will form around any foreign substance left in the bladder. The short urethra of the female makes it easy to introduce, per urethra, a foreign body, such as a hair-pin. You are perfectly justified in inferring that the hair-pin was used for an illegitimate purpose in those cases mentioned.*

Your Professor of Clinical Surgery, Dr. Hunter McGuire, has quite a collection of vesical calculi from the female with hair-pins as nuclei, and also an interesting collection with bullets as nuclei. I now show a stone I removed from a boy several years ago with a bit of willow stick as a nucleus. All sorts of things have been found as nuclei.

Stone in the bladder is very uncommon in the negro race. We rarely meet with stone in either sex in that race. I do not recall more than one other case in the negro occurring in my practice. I think an easy explanation can be given of the negro's exemption. As a class, he is not of a gouty, rheumatic, or lithemic race. They are, as a rule, muscle-

* Mouillon claims that the freedom of the female from stone cannot be accounted for altogether on an anatomical difference, as the female is likewise less commonly a victim of renal calculi.

workers, not brain-workers; in them waste-products are better eliminated, and not so much effete matter is formed, or remains in the blood. They sweat more, their lungs are more active. They do not belong to the neurotics; are not the subjects of the phosphatic diathesis; do not lead sedentary lives; eat what they can get, which is usually, from necessity, a food plain in character and limited in quantity. Hard work and plain food is to them a blessing in disguise, in that it protects them from stone in the bladder, gout, dyspepsia, etc.

It is claimed that the children of the poor are very prone to vesical calculi, and that the poor adults are exempt for the reasons I have mentioned. The poor man's child is badly fed and scantily clothed. This predisposes, according to some authors, to stone. The negro's child is badly fed and clothed, and his hygienic conditions are often of the worst sort, but my observation makes me think that stone is comparatively rare in negro children, as well as in negro adults.

Not all stones are alike in their genesis, composition, and behavior. Unquestionably, the uric acid diathesis is either directly inherited or acquired by the same environments, and, as a consequence, the tendency to the formation of uric acid calculi seems often a matter of inheritance, and the same is true of the oxalate of lime calculus.

Not infrequently we find a stone, the nucleus of which is uric acid of kidney origin, and the shell phosphatic, a bladder product, or the outside layers may vary according to the re-action and composition of the urine at different times.

The amount of pain produced by a stone is not always in proportion to its size. I have seen a man suffer horribly from a little pea-like stone, while another, with his bladder packed, would not suffer nearly so acutely. The little stone is washed into the neck of the bladder on every attempt at micturition. This blocks the outlet, and causes tormenting tenesmus. A very large stone, by its weight, makes a sac from which it is not as often dislodged. The phosphatic stone is smooth; it forms rapidly, and attains a large size,

but gives less pain and is tolerated better than the oxalate of lime or mulberry calculus, which is heavy and hard, and has rough protuberances on it resembling the mulberry fruit.

Knowing the composition of the stone, or the special diathesis causing it, we can adopt some palliative or prevention treatment. Alkalies, notably lithia water for uric acid, benzoic acid, or lemonade, for the phosphatic, and the mineral acids for the oxalate of lime.

In this poor woman, I also have the opportunity of showing you what, I am glad to say, is becoming a very much rarer trouble. I allude to vesico-vaginal fistula.

En passant, let me say, I do not think we should neglect to remind the young men of the South of the fact that surgical gynæcology had its birth in the South, and that its father was the late Dr. J. Marion Sims, a native of South Carolina, but a practitioner of Alabama. To him is due all the credit of making vesico-vaginal fistula a curable surgical trouble. Nor should we let you forget the fact that his pioneer work was done on a slave in an obscure village, and that he had the perseverance to operate on her nine times before he cured her.

If you have not done so, you should read his autobiography. His ups and downs will encourage and remind you that many intellectual conceptions, potent enough to revolutionize some surgical thought or practice, have emanated from backwoodsmen.

Dr. Ephraim McDowell, in his (at that time) remote home in Kentucky, startled the surgical world by doing the first ovariectomy. His boldness, considered rashness by many of his cotemporaries, brought more censure than praise upon him, but we who know his worth to suffering women cannot build monuments to his memory lofty enough.

The Virginia student, particularly, should cherish the remembrance that Dr. John Baynham, of Essex county, Va., in 1790, did the first operation for tubal pregnancy. In this case, we find an obscure country practitioner, who diagnoses two such cases, and recognizing the nature of the trouble, op-

erates for their relief. It was many years before his pioneer work was generally accepted by the profession, but, at the present time, we know he did so much for womankind that his name should be profoundly honored.

I cite these instances because they are of historic interest, and because they should stimulate young men to greater effort.

Vesico-vaginal fistula is becoming less common. Twenty years ago, I saw a great many cases. Now I see very few. Twenty years ago, the clarion voice of the professor of obstetrics rang out in favor of masterly inactivity. Vesico-vaginal fistula was one of the many offsprings of such masterly inactivity. Masterly activity has superseded inactivity. With forceps, we cut short the tedious labor; the impacted head is not left to unaided nature; the soft parts are not allowed to be contused until they slough. As a consequence, then, of masterly activity, vesico-vaginal fistula is correspondingly rare. It has been said that those two words—masterly inactivity—have wrought more harm than any two words the tongue can utter. While not dangerous to life, vesico-vaginal fistula is a condition that brings inestimable discomfort.

For years this poor woman has had her vagina, labia and thighs bathed in urine, which has chafed and excoriated her and rendered life miserable. Eight or ten years ago, this same patient came to me for treatment. At that time, almost the whole of the anterior vaginal wall was gone. I operated on her several times, each operation making the gap smaller by degrees. To close up this opening, I had to pull the neck of the uterus down almost to the neck of the bladder, and now the neck of the uterus forms a large part of the vesico-vaginal septum. You will see that she has, practically, no vagina. What there is of it ends just within the vulva in a *cul-de sac*, beyond which my finger will not enter. My operation closed the fistula with the exception of a little pin-hole opening so small that I had to inject some milk in the bladder to find it, and yet this little hole is enough to drain her bladder and keep her parts bathed in urine. For years she has endured the discomfort incident to this hole in the bladder, but about a year ago her sufferings began to increase, and, added to her other trouble,

I now find she has a stone in her bladder. I propose to do a supra-pubic cystotomy to remove the stone, and, at the same time, operate on the vesico-vaginal fistula.

What are the surgical resources in cases of stone in the bladder in the female? In most cases, we have a choice of litholopaxy, vaginal incision, dilatation of the urethra, and supra-pubic section. If the stone is small, and the urethra can be dilated sufficiently, without endangering its integrity and future usefulness, to enable the surgeon to remove the stone, *per urethram*, of course, that method is a choice one. If the bladder can be filled with fluid and the stone crushed with a lithotrite, and the fragments all evacuated, that is also a surgical triumph. When it comes to a choice between vaginal and supra-pubic section, surgeons are not all of one opinion. My own inclinations are strongly to supra-pubic section. I know the supra-pubic opening will close the vaginal incision, although carefully suturing may not. The dangers incident to a *supra-pubic section* are almost *nil*, access to the bladder probably better, and the drainage sufficient for all ordinary cases.

What will I do with this case? I cannot incise the anterior vaginal wall, for the reason that she has little or no vaginal wall. To get room enough, I would probably have to incise the cervix uteri also. There is no vagina in which to work. Just within the vulva, the vagina is narrowed by cicatricial tissue so much, that I cannot get my finger into it. My incision would have to be through this cicatricial tissue, which you know is not a favorable condition for a prompt union of the incision. Can I dilate the urethra and remove the stone? Owing to the size of the stone, I think this would be a hazardous procedure. The fistula is just at the entrance of the urethra into the neck of the bladder, and to contuse this tissue, would lessen the chances of a successful operation for the cure of the fistula. Can I use the lithotrite and crush the stone? To use the lithotrite safely, it is necessary to have enough fluid in the bladder to unfold it, thereby lessening the chances of catching the folded bladder walls in the lithotrite. Fluid injected into this bladder runs out through the fistula as fast as it is sent in. If I sew up the fistula first, the prolonged manipulations necessary to crush the stone and evacuate the frag-

ments will probably render the approximation imperfect and lessen the chances of curing the fistula. The use of Bigelow's evacuator involves the use of large tubes through which the fluid is evacuated; but in this case some of the return current of water would come back through the fistula.

After viewing the case from all of its phases, I think the supra-pubic section is the best. By it we have ready access to the bladder, secure good drainage, turn the flow of urine away from the sutured fistula, and thereby place the tissues in the most favorable condition for union. Even if I could incise the vesico-vaginal wall, I would have to drain the bladder by some sort of a catheter fastened in the urethra, or else leave the vesico-vaginal opening for drainage, and do a secondary operation to close it. We do not have to drain the bladder in all cases of vesico-vaginal fistula; in many, it is only necessary to draw off the water at frequent intervals; but in this case, we have a great deal of cystitis, to a great extent due to the stone, and drainage is necessary for its relief.

This bladder has been empty for perhaps twenty years. There is always some risk to run in trying to distend a bladder long contracted and the subject of a chronic inflammation. Sometimes the tissues of such bladders will not stretch, but will rupture. The fact that I cannot distend this bladder, makes the supra-pubic section a little more difficult. Fortunately, the peritoneum is attached very firmly in front to the bladder, and can be lifted up by lifting the anterior wall of the bladder. This I will do by a sound in the bladder. When the bladder and rectum are both empty, you know the peritoneal fold on the front of the bladder is even a little below the upper edge of the symphysis. If we distend the bladder as much as it is possible to do, we lift the fold of peritoneum from one-half to three-quarters of an inch. Distension of the rectum does not lift the bladder; it merely furnishes a firm base upon which the bladder rests, and this keeps the bladder from expanding backward and downward; distension of the rectum makes the bladder expand upward and downward, and increases the elevation of the peritoneal fold from one-and-a-half to three-and-a-half inches.

In making your incision, keep close to the pubis; *hug it*. This precaution cannot be too strictly enjoined. By neg-

lecting it, some of the most experienced operators have accidentally opened the peritoneal cavity, and the fear of such a complication has been the chief factor that has prevented a more general adoption of supra-pubic section. Some authors, notably Ashhurst, claim that it requires more care not to wound the peritoneum in the female than the male. We know the antero-posterior and transverse diameters of the female bladder are larger, but I suppose its vertical diameter is not. The uterus, however, should supplement the firm support obtained by distending the rectum.

Some surgeons do not think it necessary to distend the rectum, while others do not even distend the bladder. Accidents, such as rupture of the rectum and bladder, are not infrequent. It is claimed that we can recognize the various strictures as we make the dissection, and in doing so, push the peritoneum out of harm's way, if we encounter it. Of course, this is very much easier to do in a thin subject.

What tissues do we divide? In the order named, from without in, the integument, pyramidales, transversalis fascia, prevesical fat and anterior wall of the bladder. We are cautioned to disturb the prevesical fat as little as possible, for the reason that any extensive contusion and displacement of that tissue, favors urinary infiltration and its consequences. In the male, we inject five or six ounces of water in the bladder, and then tie a soft catheter or rubber tube around the penis to keep the patient from passing the water back. In the female, we have no way of keeping the water in the bladder.

I have now sutured the vesico-vaginal fistula, but you see that this patient passes the water back through her urethra as fast I inject it in. Her bladder has been contracted for so long a time, it will not tolerate even a little water, although she is quite well under the influence of the anæsthetic. Passing a sound through the urethra to the fundus of the bladder, I have it held in that position in order to pull the peritoneum out of the field of operation. By dissecting down close behind the symphysis, I have opened the bladder, and here is quite a large phosphatic stone. You would be surprised to feel the limited capacity of the

bladder—does not feel as if it would hold more than an ounce of fluid. I shall impress the nurse with the importance of watching this catheter which I put in the bladder through the supra-pubic section. Perfect drainage by this route will, I think, ensure union of the sutured vesico-vaginal fistula. The relief to this poor sufferer should be signal to an extreme degree.

ART. II.—Compression Myelitis from Pott's Disease.

By A. R. SHANDS, M. D., of Washington, D. C.

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UNIVERSITY.

The twenty-two cases of compression myelitis here reported, were under the observation of the writer during his connection with the Hospital for Ruptured and Crippled, New York City; twelve of the cases were under his immediate care.

While it is intended to make this a clinical paper, a brief review of the etiology, pathology, and clinical history will be given, which it is hoped will serve to refresh the memories of those who have never made this subject one of special study.

Etiology: There are many pathological processes that develop in the vicinity of the spinal cord, and by exerting a gradually increasing pressure upon it, inhibit the conduction of nervous irritation and also cause mechanical injuries in the substance of the cord itself. The most common seat of such affections is the membranes of the cord. By far the most common cause of pressure paralysis of the spinal cord, and practically the most important, is caused by tubercular caries of the vertebræ, spondylitis, or Pott's disease. It is an acknowledged fact at present that Pott's disease is of tubercular origin; this is confirmed beyond all doubt by discovery of tubercle bacilli in the cheesy nodules in the vertebral caries. The spontaneous recovery of compression myelitis in Pott's disease contra-indicates the inflammation of the membranes of the cord, which causes the compression, being

of a tubercular nature; this is doubtless an inflammation from contiguity, and not by a direct invasion of the membranes by the tubercular process in the vertebral caries. Pott's disease occurs at all ages, rare only in old people. History of traumatism is of no significance, except probably as an exciting cause of the beginning of the tubercular inflammatory process.

Pathological Anatomy: For details of the pathology of Pott's disease the reader is referred to the text books on that subject; only a few of the details that have direct bearing on the compression will be here given. In the extension of this pathological growth consisting of granulation tissue, the vertebral processes, inter-vertebral disk, and in fact all of the articular connections are involved. It can be easily seen how the deformity (kyphosis) of Pott's disease is thus brought about by change of position of the adjacent vertebræ, caused by the crushing of the diseased vertebræ from the super-incumbent weight, and in this way a contraction of the spinal canal is produced, thus limiting the space for the spinal cord and its membranes. This is one of the factors in the mechanism of compression of the cord. Another factor, and by far the most important, is caused by the extension of the diseased process to the soft structures of the canal. As the tubercular inflammatory process involves the periostium, the collection of cheesy pus pushes it into the canal; later the dura-mater becomes involved, also aiding in the pressure, and as a result we have a pachymeningitis externa, and not infrequently a pachymeningitis interna following. The cord itself rarely becomes involved, but it can be easily seen how it can be compressed by either of the above factors, or as is often the case, by both; and as a result have its nervous function inhibited.

The theory that the paralysis is due to a "secondary myelitis" is not supported by recent investigations and examinations of post-mortem specimens; microscopic examinations of the cord show nothing that points to an inflammatory process, or anything that may not be entirely the result of mechanical compression.

The writer has been able to find but three cases of paraplegia that have been recorded as due to direct pressure on the cord by bony angle itself (*Gibney, Medical Record*, Oct. 24th, 1885). In cases in which there is sudden crushing of the bodies of the carious vertebræ, paralysis may be induced at once by fragments of bone impinging on the cord. It is undoubtedly a fact, that by far the large majority of cases is due to the inflammation of the soft structures. This theory is well supported by the fact, that in many cases the paralysis comes on before any deformity is seen at all; many cases have been recorded in which paralysis aroused the first suspicion of the existence of vertebral caries. And by no means is it the rule that paralysis follows the most prominent deformity; in fact, quite the opposite is the case, which is probably accounted for by the fact that the most prominent deformities are produced very gradually, thus giving the cord more time to accommodate itself to its changed position. The writer has not been able to find any record of a case of paraplegia being due to compression in scoliosis.

The liability to compression myelitis varies with seat of the disease, being most common in upper dorsal region, next in frequency in the cervical region, and rare in the lumbar. The explanation of this is that the canal is narrower in upper dorsal region, and is more liable to aggravated forms of the disease with accumulation of pus. The seat of the disease in all of the cases here reported is above the ninth dorsal vertebra. Dr. Gibney, of New York, has reported 295 cases of spinal caries in which there were sixty-two cases of paraplegia; in 189 of this number the disease was in upper dorsal and cervical spine, there were fifty-nine cases of paralysis; in the 106 remaining cases the disease was in lower dorsal and lumbar spine, there were three cases of paralysis.

Clinical History: The diagnosis of paraplegia caused by Pott's disease, is readily made, except, probably, in those cases in which paralysis precedes development of the kyphosis. In these cases a careful examination of the spine should

enable one to locate the seat of compression who is thoroughly familiar with diagnostic symptoms of early Pott's disease. Pain will be felt at or near seat of compression, due to irritation of nerve-roots, and extending, according to seat of affection, into shoulders and arms, lateral portions of the trunk, or into lower extremities. With the pains the motor disturbances begin to appear, first in one leg and then in the other, increasing gradually, often rapidly, until in many cases there is complete motor paralysis. If the seat of the affection is in the dorsal region, lower extremities only are affected; but if in cervical region, the arms are first and chiefly affected. Only in the most severe cases is there any disturbance of sensibility; probably this is due to the fact that the position of the sensory nerves in the gray matter of the posterior cornua protects them better than is the case with motor fibres in the pyramidal tract.

The condition of the reflexes is very interesting. An exaggeration of patella reflex is an early symptom. If the seat of compression is above the patella reflex arc in the upper lumbar region, there will be an exaggerated patella reflex, due to the inhibitory influence being cut off. The tendon reflexes vary from a slight exaggeration of the normal to so great a degree as to show in the lower extremities a pronounced type of spastic paralysis; likewise the degree of ankle clonus varies; often there is a general tremor of the legs.

Trophic disturbances are often found in the paralyzed parts, bed sores being common in patients that are improperly cared for.

Disturbances of rectum and bladder occur in almost all cases of severe pressure paralysis. Prognosis of paraplegia from Pott's disease under efficient treatment is very favorable, even after the paralysis has lasted for a year or a year and a half, death occurring only in those cases that develop fatal complications, such as amyloid degeneration of kidneys, liver, etc., a general tuberculosis, tubercular meningitis, etc.

Treatment:. The treatment as here given is the one that

has been pursued at the Hospital for Ruptured and Crippled for the past ten or twelve years with extremely satisfactory results.

The treatment may be divided into three parts, viz.: First, to relieve the pressure of superincumbent weight on the seat of the disease; second, to aid the absorption of the inflammatory exudations; third, to build up the patient's general health. The first is accomplished by means of the plaster-of-Paris jacket with jury mast; second, by increasing doses of iodide of potash; third, by general tonics, good, nutritious food, plenty of fresh air, etc.

The patient at once has a light, neat and well-fitting plaster jacket with jury mast applied; jacket must extend well up on back and chest, being well scalloped in the axillæ to give free use of arms, and well over the pelvis, thus immobilizing the dorsal and lumbar spine; if all points of pressure are well padded, the patient will be thoroughly comfortable. The writer has seen no brace that equals the plaster jacket for either comfort or efficiency when properly applied. To apply a plaster-of-Paris jacket properly requires a great deal of experience and the exercise of considerable skill, and for this reason it is an unpopular method of treatment, both among physicians and laity. The great advantage of this method over the extension frame is, that the patient is kept out of bed, can roll himself about in rolling chair, and be taken out in open air. If care is taken in seeing that the jacket fits well and that the jury mast is kept in good order, a cure can be expected in from two to eight months—latter time for worst cases. Jacket should be renewed every four or six weeks.

Iodide of potash is given in small doses at first, and is increased gradually to about the maximum dose for each patient.

Case I.—Age, twelve years. Developed Pott's disease when about four years old. Unable to get any history as to when the paraplegia first came on. On admission to hospital the child is totally unable to stand unsupported; has marked exaggeration of patella reflex and ankle clonus; some atro-

phy and impairment of sensation of lower extremities. Has plaster-of-Paris jacket with jury mast applied, and is put on iodide of potash, beginning with five drops t. i. d. and increased to twenty.

At the end of five months the child is able to walk fairly well; at the end of six months is transferred to out-door department. Child walks well, reflexes normal. Had jacket changed about every six weeks.

Case II.—Age, eight and a half years. Developed Pott's disease, involving third and fourth dorsal vertebræ, when five years old. Paraplegia came on one year after the inception of the Pott's disease. Has had no orthopædic treatment. On admission to hospital, one month after inception of paraplegia, presents very slight kyphosis, exaggerated reflexes, and is totally unable to stand unsupported. Has plaster jacket and jury mast applied, and put on iodide of potash.

In six months the patient recovers perfect use of her lower extremities, reflexes normal. Is to be kept under observation in hospital because parents will not bring her to the dispensary regularly.

Case III.—Age, four and a half years. Developed Pott's disease extending from fourth to ninth dorsal vertebræ when two years old. Was paralyzed one year later. On admission, patient presents prominent kyphosis in dorsal spine: total loss of voluntary motor power of lower extremities: exaggerated reflexes.

In eight months, under usual treatment, an uninterrupted and perfect recovery of the paraplegic symptoms is made. Discharged from the hospital at the end of twelve months.

Case IV.—Age, eight years. Developed Pott's disease, extending from sixth cervical to third dorsal vertebræ, at six years old; one year later was paralyzed. On admission presents prominent kyphosis; total loss of voluntary motor power of lower extremities, and exaggerated reflexes. Patient makes perfect recovery in eight months under usual treatment.

Case V.—Age, five years. Unable to get any history as to inception of the disease; patient comes from an orphan asylum. Presents kyphosis involving sixth, seventh and eighth dorsal vertebræ. Totally unable to stand unsupported; reflexes exaggerated. General condition of patient not good.

Has plaster-of-Paris jacket with jury mast applied; is put on cod liver oil and iron mixture. At the end of eight

months the patient walks well, but has developed large psoas abscesses in left iliac fossa. After repeated aspirations abscess is incised, discharge of pus is profuse.

Three years after admission to the hospital, the child died from general tuberculosis and amyloid degeneration of both liver and kidneys. The psoas abscess continued to discharge to day of its death.

Case VI.—Age, six years. Developed Pott's disease in lower cervical spine when three years old. Paraplegia came on two years later. Presents very slight kyphosis at seat of disease; has the usual symptoms of paraplegia well marked. Under usual treatment makes perfect recovery in three months, and at the end of six months is discharged from the hospital with not the least sign of ever having been paralyzed. The paralysis in this case had existed for twelve months before treatment.

Case VII.—Age, five-and-a-half years. Developed Pott's disease extending from sixth cervical to third dorsal vertebræ inclusive, six months previous to admission to hospital. Presents marked impairment in motor power in upper extremities and total loss in lower; has also marked impairment of sensation. Under usual treatment made complete recovery in six months, and is discharged from the hospital at the end of nine months in good condition.

Case VIII.—Age, five years. Developed Pott's disease involving fifth and sixth dorsal vertebræ one month before paraplegia came on. Is admitted to the hospital six months later. Presents very slight kyphosis, but symptoms of paraplegia well marked. Is put on usual treatment and makes uninterrupted and complete recovery in eight months.

Case IX.—Age, four-and-a-half years. No history as to time of inception of disease. Presents prominent kyphosis involving fifth, sixth, and seventh dorsal vertebræ; total loss of motor power in lower extremities, exaggerated reflexes and ankle clonus. Under usual treatment recovery is complete in six months.

Case X.—Age, thirteen-and-a-half years. Developed Pott's disease two years previous to admission; paraplegia came on suddenly in two months after inception of Pott's disease. Presents prominent kyphosis involving seventh, eighth and ninth dorsal vertebræ; complete loss of motor power in lower extremities, with impaired sensation. Patella reflexes are so exaggerated that the least percussion will throw lower extremities into a state of tetanic contraction. In testing ankle clonus, feet can be easily thrown into

rhythmical clonic spasms. Power of sphincters much impaired. Patient lies with lower extremities flexed at hips and knees, owing to spastic contraction of flexor muscles of those joints.

Patient is put on extension frame to correct the flexion deformities; has Paquelin cautery applied along the spine bi-weekly; has iodide of potash increased in amount of dose until fifty drops of saturated solution is given t. i. d.

At end of one month is taken off the frame, and has plaster-of-Paris jacket with jury mast applied.

At the end of three months the patient is taken from hospital by parents, at which time condition is much improved, reflexes but little exaggerated, has gained control of sphincters, and can walk fairly well with assistance.

Case XI.—Age, thirteen years. Developed Pott's disease, with paraplegia following in a short time, eight months before admission. Presents prominent kyphosis extending from second to ninth dorsal vertebræ inclusive. All of usual conditions of compression myelitis present in an exaggerated form. Under usual treatment, patient makes a complete recovery in eight months.

Case XII.—Age, eleven years. Developed Pott's disease in upper dorsal spine one year before paraplegia came on, which has existed for one year, with no orthopædic treatment. On admission, child is perfectly helpless as to lower extremities; reflexes markedly exaggerated; almost complete loss of sensation below left knee; much impaired in same region on right. General condition unfavorable on account of pulmonary tuberculosis.

Has plaster-of-Paris jacket with jury mast applied, and put on iodide of potash in increasing doses. At the end of eight months, child was able to walk fairly well, reflexes were normal, but pulmonary trouble continued to grow worse, until death closed the scene eighteen months after admission to the hospital.

Case XIII.—Age, ten years. No history. Presents, on admission, slight kyphosis involving third and fourth dorsal vertebræ; is unable to stand unsupported; reflexes exaggerated; has three discharging sinuses, result of psoas abscesses.

Has plaster-of-Paris jacket with jury mast applied, and put on iodide of potash, cod liver oil, etc. A perfect cure results with three months' treatment, including closure of all sinuses.

Case XIV.—Age, six-and-a-half-years. Was paralyzed

within two months after development of Pott's disease. Presents slight kyphosis in upper dorsal spine; all of usual conditions of paraplegia well marked. General condition not good; has a suspicious cough.

Has plaster-of-Paris jacket with jury mast applied, put on iodide of potash, cod liver oil, etc. Five months after admission, had severe attack of measles, but general health had improved, and could walk a little. Twelve months later, had a fall and fractured right femur at junction of upper middle and third. Two weeks after this accident developed diphtheria. In eighteen months after admission to hospital child is discharged, having made a complete recovery from its paraplegia, with greatly improved general health, in spite of all its intercurrent maladies.

Case XV.—Age, four and a half years. Developed Pott's disease when one and a half years old; paraplegia came on one month later. All symptoms of compression, myelitis well marked, has had no orthopædic treatment. Under usual treatment made rapid recovery in three months.

Case XVI.—Age, seven years. Was paralyzed three months after inception of Pott's disease, which has existed for twelve months; no treatment. Presents slight kyphosis in lower cervical spine. Patella reflexes are so exaggerated that the least percussion will cause tetanoid movements; has incontinence of urine. Under usual treatment a complete recovery is made in six months.

Case XVII.—Age, twelve years. Exaggerated symptoms of paraplegia came on two months after inception of Pott's disease. Presents very slight kyphosis at fourth cervical vertebra; motor power of upper extremities much impaired, being worse in hands. Under usual treatment, made a complete and uninterrupted recovery in eight months.

Case XVIII.—Age, six years. Developed paraplegia six months after inception of Pott's disease, which has existed twelve months without treatment. Presents slight kyphosis, involving first and second dorsal vertebræ; all usual conditions of paraplegia well marked. Under usual treatment, made a perfect recovery in three months.

Case XIX.—Age, five years. Developed paraplegia in three months after inception of Pott's disease, which has existed for nine months without any orthopædic treatment. Presents slight kyphosis, involving fourth and fifth cervical vertebræ. Left side was paralyzed first, upper extremity but slightly so; about two months later began to lose motor

power in right side, also worse in lower extremity. All usual symptoms of pressure paralysis well marked. Under usual treatment, made a fair recovery in two months and a complete recovery in six months.

Case XX.—Age, six years. Developed Pott's disease one year before admission to hospital; was paralyzed three months previous to admission. All symptoms of pressure paralysis well marked; the least attempt at passive motion of spine produces violent pain and spasm. In one month after beginning treatment child could walk fairly well with support; in three months recovery almost perfect; spine not so acute.

Case XXI.—Age, five years. Paraplegia with its symptoms well marked came on in two months after inception of Pott's disease. Presents slight kyphosis in upper dorsal spine; kyphosis can only be detected by most careful examination; pain and spasm most prominent feature of the Pott's disease. Under usual treatment, all symptoms of paralysis had subsided in five months; pain and spasm much improved.

Case XXII.—Age, twelve years. Has been in hospital for six years. Was paralyzed in one month after inception of Pott's disease six years ago. On admission presented very prominent kyphosis in mid-dorsal spine; totally unable to stand unsupported; patella reflexes and ankle clonus much exaggerated. Was at once put on iodide of potash thirty drops t. i. d., and had plaster jacket with jury mast applied. At the end of three months iodide had been increased to one drachm t. i. d. At beginning of tenth month of the treatment first sign of return of the motor power is observed; four months later, is able to walk well. Plaster jacket with jury mast is continued for two-and-a-half years when change to Taylor spinal brace with chin piece is made. Ten months later, has return of paraplegia, brace not giving efficient support. Has plaster jacket with jury mast again applied, and is again put on iodide of potash. Six months later walks well, reflexes normal, remains under observation in hospital.

This last case illustrates well the importance of carefully watching the patients and continuing the support to the spine for a sufficient length of time to prevent a return of the paralysis. Unfortunately no definite length of time can be stated, but it should be borne in mind that there is dan-

ger of a relapse just as long as there is any active inflammatory process going on at seat of the caries; hence the support should be continued for some time after all acute symptoms have disappeared.

1305 *H. Street, N. W.*

ART. III.—Does Chloral Hydrate Modify and Shorten Typhoid Fever.

By **W. L. DUNN, M. D.**, of Glade Spring, Va.

The typhoid fever of to-day in South-West Virginia, has changed its type from the disease as it existed in Eastern Virginia thirty years ago. The onset is more sudden, but the disease is not so dangerous, and ulceration of Peyer's glands is not invariably present. I believe that chloral does shorten and make the attack lighter. To illustrate this I will mention a few cases selected from my practice at random.

CASE I.—I was called to Emory, Va., August 8th, 1890, to see Pierce M—; residence, Bristol, Tenn.; occupation, local editor. He had been feeling badly for a week, tongue coated, temperature, morning 102.5°; evening 103°; skin dry. Gave a laxative.

August 9th, morning temperature 103°, evening 103.5°; general condition the same. Restless at night. Prescribed quinine sulphate, one grain every six hours, chloral hydrate, ten grains every night at bed time. His temperature remained stationary at 103° for four days, then gradually went down, and in twelve days from the time I first saw him he was convalescent.

CASE II.—August 7th, 1893, was called to see Glenna H—, residence, Knoxville, Tenn., arrived in Glade Spring August 2nd., age eleven years, complaining four to five days; had an attack of infantile paralysis of left arm five years since. Three of her little playmates died in Knoxville while she was sick. Temperature, morning 103°; evening 104°; tongue coated; skin dry; rested well at night; countenance bright. Prescribed hydrarg. chlor. mit., grains iv; ipecac, grains iv. M. Divide in chart 4. Sig.: Take one every six hours.

August 8th to 13th, temperature 104° morning; evening 104.5°. Prescribed chloral hydrate ʒj; aqua ʒj. M. Sig. Give a teaspoonful every six hours.

Twelfth to 18th of *August*. Tenderness in right inguinal region and two inches below the umbilicus, with tendency to diarrhœa.

Eighteenth of *August*. Temperature normal; threatened with heart failure. Prescribed strychnia sulph. one twentieth grain; two drops acid sulph. every six hours; eggnog at 4 A. M. every morning. On 23rd convalescent.

CASE III *November* 28th, 1894, was called to see Miss B—. Returned to her home November 24th, had nursed her sister and brother-in-law through a long attack of typhoid fever, each of which had lasted from forty to sixty days. She was feeling badly for four days. Morning temperature 102.5°; evening 103°. Gave one grain each of calomel and ipecac every six hours for twenty-four hours; then prescribed ten grains chloral hydrate every six hours until December 7th. Then strychnia, one twentieth grain, three gtt. acid sulph. every six hours. On the 17th of December, she was convalescent.

I have treated at least fifty cases on this plan since 1890, and have had trouble with but two. One was a case of granular degeneration of kidneys complicated with typhoid fever, which was the only case lost. The other, the heart beat was feeble from deficient nervous force and I did not dare give chloral. The case terminated favorably on forty-second day.

The question that presents itself to me, is it the purity of air and water at Glade Spring and vicinity, that modifies the disease, or is it the chloral hydrate? We all know that chloral is a very powerful germicide.

Chilblains, Prescription for.

According to *Les Nouveaux Remedes*, the following application is good:

R_y.—Tinct. digitalisgrm. 6i(ʒiss.)
 Thymolgrm. ʒi(gr. xlv.)
 Alcoholgrm. 150 (ʒiv., ʒvj.)
 Glyceringrm. 150 (ʒiv., ʒvj.)—M.

S.: Rub well on the affected part.

ART. IV.—Diphtheria.

By CHARLES E. BOOTH, M. D., of Low Moor, Va.

SURGEON TO THE LOW MOOR IRON COMPANY OF VIRGINIA, ETC.

Diphtheria is a disease which, above all others, has desolated more homes, and by its ravages moistened with agonizing tears the faces of thousands of mothers while in fruitless efforts to rescue their offspring from its relentless grasp—a disease which for more than half a century, has kept many earnest workers in the profession arrayed against one another in voluminous discussions as to its cause, its duality with laryngeal croup, and as to whether its onset was local or general.

But thanks to the painstaking bacteriologists of our day, who give assurances that all these doubts and contentions will be relegated to the oblivion of the past, as with a wave of the hand, they have swept back the obscuring cloud and revealed the monster in all his ptomaine glory.

As in modern naval warfare, the resistance of the armor-plate must determine the efficacy of the projectile, so in this, the enemies' position and environments are but discovered, when from the work-shops of Roux, Yersing and others comes the missile which promises to drive him from the field—a boon which, if realized in full or in part, will not fail to produce rejoicings in every city, village and hamlet in the civilized world.

In its distribution and in the varying character of its epidemics, diphtheria is one of the most mysterious diseases with which we are acquainted; often appearing in isolated hamlets and in the habitations of sparsely settled rural districts, most frequently at times when no means of communication could be discovered, and often where no contagion had existed for years.

But science has removed all thoughts of a spontaneous development, and established beyond a doubt the fact that the morbid phenomenon which characterizes this disease depends upon the presence of the so-called Klebs-Löffler

bacillus. Still the important, and as yet unanswered, questions present themselves, viz: When, and by what means, did they reach these secluded habitations? These are questions which, when answered, will remove much of the mysteriousness that obscures the disease to-day.

But before these questions can be answered, a more definite knowledge of the life-history of this micro organism must be obtained, especially as relates to its longevity and to the changes which characterize its existence.

As to its longevity little is known. In culture media, and in preserved pseudo-membrane, its vitality has been observed to continue for months (Sternberg, page 362). But we can see no reason to doubt that they may remain in a desiccated or in other conditions for a much greater length of time, extending even into years, as a multiplicity of recorded observations in the history of the disease testify, as in the case of the "Normandy Village."

"Twenty-three years after an epidemic of diphtheria some of the bodies of those who died of the disease were exhumed, and an epidemic at once broke out, first among those who opened the graves, and extending to others."—(Pepper). Also by the same author: "A brush used to swab the throat of a diphtheritic child was put aside in a drawer unclean; after four years it was taken out and infected a man who used it."

In my own practice, a short time ago, the disease of a malignant type, developed in a family of ten persons; of the ten, seven were prostrated by it, death resulting in two of the cases.

No cultures were made, but stained cover-glass preparations revealed an abundance of the diphtheritic bacillus. A death had occurred in the same residence nine years previous, following which no efforts were made to disinfect the premises. The paper which was upon the wall at the time of the former attack remained there until the second outbreak, at which time the process of housecleaning was in progress, old paper being torn from the walls, dust removed from the ceilings, casings, etc. This labor extended over a

period of a week or ten days, during which time the disease manifested itself. No diphtheria had been prevailing in this section of the country at the time, nor for a number of years previous, so far as I know.

Inquiry and inspection revealed no probable avenue by which the disease had been communicated from without. The water supply was from a well, from which other families drew; the milk from a cow apparently in the best of health; no domestic animals were allowed about the place, and in a no more reasonable way can the presence of the bacilli be accounted for in this instance than that, at the time of the former outbreak, they found lodgment behind sections of broken wall-paper, in crevices, etc., and, being liberated at this time by the process of renovation, gained lodgment upon fertile ground and entered into a renewal of virulent activity.

As to the changes in its life-history, laboratory research has also demonstrated the fact that, after a period of virulent activity, this microbe gradually loses its virus-producing property, which power is again restored after a lapse of time, when environments chance to prove suitable.

At the conclusion of a report of a recent investigation on this question, Abbot* says: "From these observations, we feel justified in agreeing with the opinion that has been advanced by other observers, particularly Hoffman, Roux and Yersing, that, under varying conditions, the virulence of the true bacillus may be observed to fluctuate in the degree of its intensity—at one time possessing the property in a high degree, at another presenting a decided attenuation, and not unfrequently a complete absence of pathogenic power.

Pasteur has shown that, when the virulence of a pathogenic organism has been modified, it may be restored by successive inoculations into susceptible animals (Sternberg, page 125).

As to these points, time will permit but these suggestions: That in view of the above facts, and since the only dif-

* *Johns Hopkins Bulletin*, Vol. II, No. 17, page 146.

ference recognizable between the so-called pseudo and the true diphtheritic bacillus resides in the incapability of the former to generate the tox-albumen produced by the true bacillus, the presumption that they are the one and same micro-organism is not unreasonable.

That, in the so-called pseudo-diphtheria, we have to deal with them in an almost attenuated condition, either passing into that state or from it, seems reasonable to believe; that, in this state, they are not only capable of growth and multiplication, but of producing a marked local and, in many cases, a brief general disturbance, without other manifestations of virulence.

Also that they may remain in a state of complete inactivity for a period extending into years, is not inconsistent with vegetable life; and during that time remain where they first found lodgment, or be carried about to new and distant localities by the wind, upon particles of dust or as part of them, or by individuals, animals, birds, insects, or upon anything, or possibly upon all things that move, and here remain until surrounded by circumstances possessing the requirements for a renewal of virulent life.

Should investigation along this line of thought prove as true as it seems to us reasonable, it must lead not only to revised views of disinfection, to greater care in purity of surroundings, but to an adoption of *means of knowing* that they are kept in this condition, in which event many of the sudden and death-dealing outbreaks of this disease will be avoided.

ART. V — Experience with Diphtheria Antitoxin.

By CHARLES T. PARRISH, M. D., Portsmouth, Va.

In view of the prevailing discussion concerning the efficacy of antitoxin, I submit a brief report of the following cases, which though few in number, may be of service in the sum total of general experiences:

Case I.—White female, æt. 12; in the practice of Dr. E. A. Hatton, of this city. Throat lesion marked,

both tonsils and post pharynx covered with membrane. Constitutional symptoms moderately severe. Temperature 101–103° F. Antitoxin (20 c. c.) administered on eighth day. Shortly after injection there was an exacerbation of constitutional symptom, but within course of a few hours patient's condition seemed somewhat improved. Next day patient had materially improved and membrane came away *en masse*. Membrane reappeared in slighter form; three additional injections given, and patient was approximately well in four days.

Case II.—White male, æt. 10; in practice of Dr. F. S. Hope, of this city. Membrane located chiefly on post-pharynx and nares; respiration somewhat embarrassed; tonsils comparatively uninvolved. Extreme nervous depression; knee-jerk absent; other constitutional symptoms mild. Temperature 100–102° F. First injection (20 c. c.) was followed by temporary exacerbation of symptoms. At second injection membrane began to disintegrate, and with three additional injections patient made good recovery in five days.

Case III.—White female, æt. 4; in the practice of Dr. F. S. Hope, of this city. Antitoxin (15 c. c.) on sixth day, when patient's condition was so serious as to almost preclude hope of recovery. At this time respiration was maintained only with greatest effort, and blood was very imperfectly aerated, the child being much cyanosed. Breathing markedly croupy and easily heard in adjoining room. Cough raucous and metallic. Temperature 100°; pulse 150', no throat lesion visible. The usual exacerbation appeared after first injection, and it seemed impossible for patient to live twelve hours; but recuperating somewhat at the end of this period, a second injection was given next day. This was followed by a gradual change for the better, and after third dose positive signs of improvement appeared. Respiration became much easier, and large patches of membrane, together with bloody sputum, were coughed up from time to time. Patient having received a fourth injection, is now (14th day) making a good recovery.

Case IV.—White male, æt. 4, brother to Case I. Membrane confined to tonsils. Temperature, 102°; pulse, 120. Antitoxin (20 c. c.) on second day, followed by no exacerbation, symptoms moderating within six hours. Recovery with second injection on fifth day. Urinary analysis to date negative.

Case V.—White female, æt. 5. Tonsils and posterior

pharynx covered with membrane; larynx also involved, patient being unable to speak above a whisper. Temperature, 102° ; pulse, 125. Moderate nervous depression. Antitoxin purposely withheld, and older method of treatment (calomel in repeated doses, throat swabbed, etc.) tried. Patient's condition becoming steadily worse, antitoxin (20 c. c.) was administered on fourth day. On fifth day, no visible improvement; on sixth day antitoxin (20 c. c.), membrane beginning to disintegrate and come away by piece-meal. With one additional injection, patient is now (eighth day) on a fair road to recovery. Urinary analysis to date negative.

Case III is of especial interest to the writer, as of eight such cases seen here this winter seven have resulted fatally.

In Case II, as well as Case III, no local treatment was attempted.

During the past winter diphtheria of quite a severe type has prevailed in this community, there having been more deaths from this disease during the past four months than the entire preceding ten years; and while we will not attempt to generalize upon the above limited experience, we have had such disastrous results with other methods of treatment that we cannot refrain from taking a mildly optimistic view of the efficacy of antitoxin.

ART. VI.—*‘Ego Diæta Curari Incipio; Chirurgiæ Tædit.’*—Cicero.

“I begin to be cured by diet; I am disgusted with Surgery.”

Comments by JOHN ASHBURTON CUTTER, M. D., of New York, N. Y.

Cicero's exclamation can be rightly echoed at the present day, and medical writers of this time give all the credit of advance in the profession to surgeons; new operations are being constantly devised; methods of attack of tissues and organs are constantly exploited, and one is compelled to say, “Humanity was not created simply for surgeons to cut diseased conditions from; when such conditions do exist, the cause should be studied for and removed, and the surgeon's hand stayed so that nature may be given a chance.”

The object of this paper is to briefly call attention to some of the work done in medicine in surgical fields and fields that surgeons cannot attack.

The gravel disease.—Gravel of the blood (rheumatism), gravel of the kidneys (nephritic calculi), of the bladder (stone), the gall bladder, the intestines, the lungs (asthma), are now accurately diagnosticated by the morphologies of the blood, urine, faeces and sputum and treated as *gravels*—the cause lying in unhealthy feeding and drinking, which promote the deposit of gravel, and not their elimination. The means being used of simple feeding, which prevents fermentation and which does not eschew beef (though to beef has been laid the cause of all gravels, when, instead, the cause lay in the feeding in excess of starches and sugars that underwent fermentation, producing paralyzing gases, said gases inducing faulty metabolism and insufficient action of glands), and the drinking of waters that were either distilled or contained but a very few grains of salts to the gallon; it has been considered in medicine and surgery good therapy to find out the chemical composition of the gravel and give an opposite salt; *the new salt would dissolve the old stone and then form one of its own*; hence the great utility of distilled or waters very sparsely salt. Physicians should not prescribe the many waters now on the market without careful examination of them.

The diseases of the heart due to embolism are amenable to treatment, as there is a morphology of the blood in the pre-embolic state which is characteristic, and treatment (based on the principle of stopping acetic acid fermentation in bowels, said acetic acid causing embolism and thrombosis, and again the use of distilled waters) is highly satisfactory to physician and patient. This morphology of the pre-embolic state is also of value in preventing embolism in other parts of the body.

The fatty degenerative diseases.—This is an immense field, and I am permitted to state that there will shortly be published, in the *Virginia Medical Monthly*, a series of articles, entitled *Fatty Ills and their Masquerades*, by Ephraim

Cutter, M. D., LL.D. An important feature of this series will be "A New Physical Sign of the Pre-Apoplectic State." The diagnosis of fatty ill's by clinical morphology and therapy, based on such, and common sense removal of causes, is a vast advance. Surgery cannot attack a fatty heart or fatty kidneys. Surgery of gall bladders in fatty degeneration is liable to end disastrously. Within a decade, I have heard an A1 teacher of medicine state that it was impossible to remove fat from a fattily degenerated heart. I know this statement to be wrong from my clinical experience.

The fibroid degenerations.—The kinship between these and fatty ill's is close. There are teachers who still stick to the pathology that classes nearly all chronic diseases under inflammations; there is also the class that state that one case in a million of locomotor ataxia can be cured. Why not say that none can be cured? Clinical evidence shows that fibroid lesions of the spinal cord are amenable to systemic treatment. This evidence has been found in the practice of more than one or two medical men. The fibroid kidney does not necessarily mean death. A young man, now under my care for the last six months, with albumen in urine and an abundance of muco-purulent discharge from kidney; countenance pasty; pain; weakness; seminal emissions; no history or evidence of bladder or urethral trouble, has progressed towards health; diet limited closely to broiled and roast beef and a little bread or baked potato.

Fibroid growths of the womb have been the surgeon's *bete noire* for years. It is hard to find out just what the real mortality is in operations by hysterectomy; the cases selected are those best fitted. This I saw when a medical student at a clinic at Albany, 1884, Lawson Tait refusing to operate on a case of a colored woman on whom later was done, by another surgeon, an exploratory incision and the growth left alone. No procedure has been more abused by its to-be-expected friends and its foes than that of galvanism by profound abdominal puncture, as instituted in 1871 by Ephraim Cutter. In a series of fifty cases, not selected, the good and the bad of all kinds taken, there was a mortality

of eight per cent. Does surgery do better than that? But the real point of interest is, What is the cause? Lawson Tait in his lecture, *ut supra*, gave us, as medical students, not the slightest idea as to cause. I felt disappointed even after I had seen his wonderful speed in operating on other cases (and in my opinion his good results are due more to his speed than anything else); it appeared to me that this great mind should have gotten some ground to stand upon as to causation.

If my clinical experience is worth anything, and especially that of others much older, the sooner the profession regard all tumors as evidences of faulty nutrition, the better for man and womankind. Within a few years I have had several women under my care who had large and hard growths of the breast, called cancer by eminent surgeons: yet these cancers disappeared under systemic treatment: and by systemic treatment I mean stopping the leaks of nerve force, whether due to poor food, anxiety, a sore womb, or anything else.

In this connection, I wish to call attention to medicines *per se*; the great output of synthetic chemicals from foreign laboratories has kept doctors busy testing agents that were worthless or even harmful in many cases; old remedies have been laid aside, yet their value has not diminished. One of the strongest aids the American physician has lies in the respectable houses that produce drugs and chemicals alone and in combination, whose purity can be relied upon. Viburnum has been long known to medicine. When Parke, Davis & Co. brought out their "liquor sedans," a product containing viburnum, golden seal, and jamaica dogwood, a very important adjuvant to the physician's armamentarium was made. Pain kills; pain is also a sentinel giving warning and man's great friend. It is unwise to load a person with opium, and not know the cause of the pain, or remove it. But there are times, and those many, where patients must be carried over a certain period until the physician has got the case to the place where the cause of the trouble is put aside and nature is regaining its control of the body.

In many cases of pelvic disease in women, this combination will help; in cases of locomotor ataxia, it is a decided aid; in cases of male neurasthenia, due to the profuse colloid discharges in the urine, this combination is of value, as allaying the irritability of the nervous system due to the excessive drain of this protoplasmic colloid from the system; and this class of neurasthenic cases, to which attention was called in the *Virginia Medical Monthly* of December, 1890, has probably existed for centuries; it is a decided advance in the practice of medicine to know of such, and to treat and cure such. Messrs. Parke, Davis & Co. originally placed "liquor sedans" on the market with a menstrum of which syrup was a part. In cases of fatty and fibroid ill, to name no other, it was important to do away with the sugar; the firm kindly made for me last summer a lot without sugar, and which my patients did not object to. At my request, they have listed this preparation without sugar as "Liquor Sedans, R_x No. 2, without sugar."

Cancer. All cancer is not cancer, or some cancer is curable. Physicians and surgeons do not know what cancer is; or, again, some cases of cancer are curable. There can be no doubt that the terror of this word has slain thousands. I believe that many cases treated as cancer are simply fibroids; but, again, cases presenting the appearance under the microscope do recover; then they are not cancer; thus our ideas, the English language and the real facts conflict. My clinical experience is, that in every case of cancer I have seen there has been a history of tremendous loss of nerve force by some one or more causes—rioting with money in food, wine and women; poverty of food; grief at the death of beloved ones; shame due to transgression of the law by a member of the family. In one case, the only son and child, a morphine eater, caused a lump to come in his mother's breast; removed by a tremendous incision, involving the axilla, the eminent surgeon calling attention gleefully to what a nice dissection had been made, as if any fool of a doctor could not have done as much; result, no healing of the wound, and *the final result* but a ques-

tion of time. I have seen a woman carry disease in her abdominal walls quiescent while fighting immense fibrocystic tumors of the abdomen. When she lost her money the disease in the abdominal walls lighted up as pure epithelioma and killed her. A young woman died from cancer of the liver, the cause with her lying in her overwork before she had reached the period of maturity. All cases of disease of tissue in organs cannot be helped, *but the present attitude of laying down and letting the case go on to death, without a determined fight to stop causes, put the nutrition on a proper basis and wait for the mediating force of nature (vis mediatrix naturæ—not vis medicatrix naturæ) to cure, is foolish and of tragic results.* The surgeon's work is of immense value in many places and times; but the one who stops causes must always be of more value to humanity than he who only removes results.

Heartrest Sanitary. Office, Equitable Building.

ART.— VII.—Some Diagnostic Hints from the Amount of Urine Passed.

By M. D. HOGE, Jr., M. D., Richmond, Va.

PROFESSOR OF PATHOLOGY AND URINOLOGY, UNIVERSITY COLLEGE OF MEDICINE,
RICHMOND, VA; PHYSICIAN IN CHARGE SHELTERING ARMS HOSPITAL, ETC.

While we may all deplore the extremes to which specialism has gone, or is going in medicine, still no candid person will hesitate to say, that the tendency in this direction has been in the main beneficial to the general practitioner and surgeon.

It is just from this class of workers that the profession at large will be helped: for they not only have the time, but also the inclination, to sift the good from the bad, and by recording the practical results of the former, they thereby not only save the busy doctor from errors of experiment, but give him valuable diagnostic hints and facts which will go far towards forming a correct opinion of the case.

It is in conformity with these ideas that we wish to direct

attention to one of the physical properties of the urine, and the conclusions which may be drawn from it.

In regard to *quantity*. The average quantity passed by a healthy male individual who lives temperately, is in twenty-four hours, about 1,500 cc., or 50 ounces (2½ pints). That for a woman under similar circumstances, is from 10 to 20 ounces less. This varies considerably with the time of day, most being passed in the afternoon and least at night. In estimating the entire quantity, the person should be careful to collect the whole amount passed in twenty-four hours in a well-stopped vessel in order to prevent evaporation. Further, it should always be voided in a vessel before going to stool.

We may speak of a *physiological increase* of urine after careful enquiries as to the previous habits of the patient, under the following conditions:

- a. From drinking large quantities of liquids (*urina potas*);
- b. From diminished skin activity, as in cold weather;
- c. The action of diuretic foods and drugs;
- d. Increase of the general blood pressure.

The quantity may be *diminished in health* by:—

- a. Unusual activity of the bowels;
- b. Decrease of the general blood pressure;
- c. Abstaining from liquids;
- d. By profuse perspiration;
- e. By a non-nitrogenous diet;
- f. By rest.

Having now recognized the sources from which the average quantity may be either increased or diminished, we should be prepared to look for some one of the following conditions where there is a *pathological increase* (polyuria):

- a. Diabetes, mellitus and insipidus;
- b. Cirrhosis of the kidney, associated with cardiac hypertrophy;
- c. Amyloid kidney;
- d. Transition stage from acute to chronic nephritis;
- e. Pyelitis;
- f. After absorption of oedematous fluids and exudates;

- g. Convalescence from fevers;
- h. Hysteria, chorea and epilepsy;
- i. Diuretics.

On the other hand, we find the amount *pathologically diminished* (oliguria) in:—

- a. Acute and chronic forms of parenchymatous nephritis;
- b. Weakened heart action;
- c. Severe anæmia;
- d. Acute catarrh of the stomach and intestines;
- e. Uræmia;
- f. Formation of dropsical effusions;
- g. Acute inflammatory diseases and fevers;
- h. Diarrhœa and cholera;
- i. Cirrhosis of the liver;
- j. The last stages of all forms of Bright's disease;
- k. Mechanical compression or closure of the ureters.

Finally, we have *complete suppression* (anuria) in:—

- a. The algid stage of cholera and yellow fever;
- b. Shock or collapse from internal injuries;
- c. Reflex shock of catheterization;
- d. Administration of chloroform, and especially ether.

Of course, it is understood that in this enumeration of causes of anuria, we are not considering cases of *retention*.

No. 7 North Third St.

ART. VIII.—Treatment of Typhoid Fever.

By J. S. BLAIR, M. D., of Churchville, Va.

It is my purpose simply to speak of typhoid fever, as it has presented itself year after year in my country practice.

The practitioner who essays to follow a special line of treatment, based upon any of the special theories of the text-books, will not make a success of it—so varied are the different types of this fever, and the symptoms so vary in each patient, as to constitute each case a separate and distinct form of the disease.

My endeavor is to treat the patient rather than the disease

--to study well in each individual the condition of the patient, noting the weak points, and treating the case without special reference to other cases that have come under my care. Whether the case be mild or severe in the beginning, my patient will most likely need all the skill that can be brought to his aid to build up and strengthen the weak points.

Typhoid fever is a disease difficult of diagnosis in the early stage. Especially is this true of the "atypical form." In the beginning of such cases, it is often almost impossible to determine whether we are dealing with a case of this fever or not, so completely is it marked by the symptoms of other diseases. Yet, by a rigid examination of the patient, and a careful painstaking study of the case, we will not often be long deceived.

When I have a case of typhoid fever to deal with, I note carefully everything possible about the organs—the condition of the pulse, the nervous system, gastric and intestinal symptoms, the temperature, etc. If the tongue is coated, and if there is gastric disturbance, give one grain of calomel and five grains of nitrate of bismuth every three hours. After four or five doses, if the bowels have not been well moved, give either castor-oil, sulphate of magnesia, or an injection of warm water, with sufficient quantity of bicarbonate of soda to make the water a little soapy. If, on the other hand, the stomach and bowels are in good condition, tongue not coated, I give sulphate quinia, Dover's powders five grains each every six hours, until ringing in the head is produced, when the quinine is reduced to tonic doses; if not well borne by the stomach, subnitrate bismuth is added. If pain is severe, instead of Dover's powder, a hypodermic injection of morphine is useful. If the temperature registers above 102° , I give tinct. aconite one drop, sweets spts. nitre 20 to 30 drops, chlorate of potash three to five grains—dose, one and a half to two hours apart, in water—unless thermometer records, in the meantime, a reduction of temperature. If there is much nervousness, potassium bromide may be substituted for the chlorate of potash. After a day

or two, the chlorate of potash is omitted, and the aconite continued in small doses, with or without the nitre. If the skin and kidneys are acting well, the nitre is also omitted, and aconite continued in half a drop to one drop doses every two or three hours.

Antifebrin and antipyrine, in fact, all the coal-tar derivatives, should be avoided as much as possible. I have ever felt that to reduce the temperature by depressing the nerve-centres, and thereby weakening the heart's action, is, to say the least, bad practice. Surely no one would think of resorting to these febrifuges when the heart's action was weak and the nerve centres almost overpowered by the typhoid fever poison. Why, then, if the heart's action is good, and the nervous system bearing its part well, cripple them in the very beginning of a pathological condition which is most sure to tax them to their uttermost endurance ere the disease has run its course? Better let the fever alone than to purchase its reduction at such a cost. Then, too, the fever is not the disease any more than is the diarrhœa.

If the functions of the liver, kidneys, and skin—in fact, if all the organs of the body are looked after from the beginning of an attack, and never lost sight of, much may be done to prevent a high temperature; nor will it prove so difficult to keep in reasonable bounds.

I have never seen aconite do harm in small doses frequently repeated, continued through the first and often the second week. From the very first the patient should be put to bed under the best hygienic surroundings possible, and a strictly liquid diet systematically given. Milk is the best diet a fever patient can have, and should be given in small quantities every two or three hours, so the patient gets three pints in twenty-four hours. The milk should be peptonized if it does not digest well, and may be alternated with chicken or beef tea, or some of the many prepared foods. I prefer Reed & Carnrick's liquid beef peptonoids or Valentine's meat-juice, if I cannot have the beef tea prepared at the patient's house.

Every general practitioner knows how infeasible is the

Brandt treatment. Whilst I do not doubt the good results obtained from the cold bath in hospitals where the physician has trained nurses, with every convenience for carrying out his directions, I am sure I could not have the cold bath, or even the wet pack, successfully carried out in my practice; and I am persuaded that I do not differ from other country or village doctors when I say it is often impossible to have even nourishment given as directed. Sponging face, limbs, and arms, one at a time, and wrapping the member, after it is well dried, in flannel, often brings down the temperature a degree or two, and is almost always acceptable to the patient.

The cold pad, as recommended by the eminent Virginian, Dr. Bedford Brown, strikes us as of much benefit, and can be applied by most any nurse.

When there is delirium, subsultus, *muscæ volitantes*, denoting the effect of the poison on the nerve-centres, give bromide of ammonia and potash. The bromide has a quieting effect, and the action of the ammonia upon the blood and on the kidneys is not to be ignored. With the above, an opiate may be given when indicated.

In severe cases, where there is great prostration, the carbonate of ammonia with plenty of whiskey may be substituted for the bromides. In the later stages of severe cases, where there is copious perspiration with weak heart, dry, parched tongue, nothing equals aromatic sulphuric acid with as much quinine as it will readily dissolve—dose ten to twenty drops every six hours in water. A dry, parched tongue is always an indication for stimulation.

During the crisis there is nothing that will take the place of whiskey; it should be given frequently in increasing doses until the stimulating effect is obtained, and then in quantities sufficient to keep up this effect while you fortify the ground thus gained with plenty of easily digested nourishment. Strychnine and nitro-glycerine in this stage often do good hypodermatically, but they cannot take the place of stimulants. Stimulation, whilst not needed in every case, should not be deferred too long in severe cases. Stimulate

when you may, not when you must. As soon as there is the slightest evidence of failure of the vital forces begin with the whiskey. The strychnine should not be deferred too long.

For the diarrhœa, give opium with bismuth.

For the tympanites, turpentine stupes, if properly applied, are always beneficial. They should cover the entire abdomen, and over them an oiled silk or dry flannel, and changed sufficiently often to keep hot, and persisted in for hours at a time. Spirits of turpentine often does much good in the later stages, notwithstanding the high authority to the contrary. Diarrhœa, when the actions are small and frequent and of bad odor, is frequently due to accumulation of fecal matter in some part of the colon, which may be relieved by a dose of castor oil.

Hæmorrhage from the bowels is always an alarming symptom, though not necessarily fatal. I have seen a number of cases recover after frequent and severe hæmorrhage. In dealing with a case of hæmorrhage from the bowels, give full doses of opium with acetate of lead. Nourishment should be greatly restricted or altogether omitted for twelve or twenty-four hours. Small quantities of ice should be frequently given. Patient should be kept absolutely quiet. Ergotol hypodermatically does much good. It is often a hard question to decide when to move the bowels should constipation now follow, which is often the case. Be governed altogether by the condition of the patient. Should there be no marked rise of temperature, or but slight if any tympanites or distension of the abdomen—in other words, if the patient is doing well, let the bowels rest several days. On the other hand, if there is the slightest evidence of septic infection they should be moved at once, preferably by a carefully administered enema.

For eight or ten days after convalescence has been established it is safe to give no solid food. If digitalis does any good in typhoid fever it is during convalescence. I have seen good results from large doses of it in post-typhoid insanity. During convalescence sponging the entire body should be

kept up, and special attention given to all the organs of the body.

In conclusion, the only good I have obtained from the much-vaunted carbolic acid and iodine treatment has been the relief of nausea in the early stage. As an antiseptic, I prefer the sulpho-carbolate of zinc.

ART. IX.—Treatment of Croupous, Fibrinous or Lobar Pneumonia.*

By **JOHN WALKER, M. D.,** of Lynchburg, Va.

When we consider that the mortality from this disease is about 20 per cent., and that nine-tenths of all patients over the age of sixty-five years who die in hospitals die of pneumonia, we must conclude that we are dealing with one of the most fatal diseases, and one which baffles the skill of even the most learned and experienced.

The treatment of croupous pneumonia necessarily varies with the nature of the case. There is no one plan of treatment appropriate to all cases. We have sthenic and asthenic cases, those in the young and vigorous, and those in the old and debilitated. Still further, the stage which the disease has reached when first seen, must materially influence the treatment.

There are, however, certain things which are more or less applicable to all cases. Thus, it is desirable to have the patient in a large, cheerful and well-ventilated room, which should be kept at a uniform temperature of about 65° or 70° F. The patient should be kept in bed as nearly horizontal as possible, and prevented from exertion. An effort should further be made to keep the body at a uniform temperature, to promote and preserve the moisture of the skin, and to prevent too rapid evaporation from exposure. To do this, the thorax may be enveloped in a jacket lined with cotton batting, an oil-silk jacket, or at least a flannel jacket. Such protection is especially necessary in children who, by

* Read before the Lynchburg Academy of Medicine, October, 1894.

their restlessness, are apt to expose themselves. Warm linseed poultices, or other soothing fomentations to relieve the sometimes distressing pain in the early stage, are of great benefit. The diet should be fluid or semi-fluid, concentrated and nutritious, such as meat broths, eggs, beef tea, liquid peptonoids, etc. Milk, however, in small quantities and repeated at short intervals with or without lime-water, is preferable to all other forms of food.

At the outset, we usually find a heavily-coated tongue, accompanied by constipation. Five to ten grains of calomel, combined with ten of sodium bicarbonate, prove of service, by stimulation of the liver to more healthy action, thus diminishing the amount of blood in the congested lung; also stimulating the action of the kidneys and skin, emptying the alimentary canal of undigested matter, and thus acting as an antipyretic; also better preparing the alimentary canal for the reception and assimilation of the more concentrated nourishment to follow throughout the course of the disease.

The shock to the nervous system in pneumonia is great. Hypodermatic injections of morphine, guarded with atropia and repeated several times at somewhat regular intervals, comfort and help the patient.

If, within a few hours after the invasion of the disease, the case seems to be of sthenic nature in a young or middle age and vigorous subject, commencing, as it probably will, with a decided and protracted chill, with a strong bounding pulse, excessive heart action, congested face, temperature of 104° to 106° , respiration thirty or forty per minute, when the vessels of the alveoli are distended to their utmost, thereby encroaching upon the cavity of the air vessels before the fibrinous exudation has been thrown out and before the so-called red hepatization of Lænnec has developed—in such cases, I know of no remedy so applicable and so efficient in improving this condition as *veratrum viride*. No doubt some cases show excessive engorgement and consequent over distension of the right ventricle, in which phlebotomy may give wonderful relief. With this, however, I have no

experience, but would refer to a most excellent article in the *Transactions of the Medical Society of Virginia*, 1893, by Dr. Bedford Brown, of Alexandria, Va. But I think that with the judicious use of the veratrum we can accomplish much, if not all, that we accomplish by blood letting, and thus avoid the loss of blood which may be needed later on. I know there are those who claim that veratrum, when used in the first stage, upsets digestion, depresses the already over-taxed heart, and by just so much disables and disqualifies the heart for the immense strain which must follow, if the disease goes on to the second and third stages. I am convinced, however, that in cases as above described, if we commence with two-drop doses of Norwood's tincture of veratrum viride, repeated every two hours, and increase or diminish the dose according to the effect produced upon the temperature, respiration and heart, we may shorten or even abort many cases. If respiration is quickened, or the pulse increased in frequency and feebleness, becoming irregular, intermittent or dicrotic, the dose should be diminished. If, on the other hand, respiration is slowed, the pulse diminishes in frequency, increases in strength, is made more regular, ceases to be intermittent or dicrotic, and the temperature diminishes, then we are securing benefit, and should continue the remedy, pushing it to its physiological effect.

The action produced by veratrum is due to the conjoined action of its two alkaloids, *jervine* and *veratroidine*. Veratrum is an antipyretic, diaphoretic, and to some extent acts as a diuretic. It is a powerful nerve sedative, and by its inhibitory action upon the heart, prevents excessively rapid action, and hence relieves the heart muscle from excessive overwork. With it we may diminish the respirations from 35 or 45 to 10 or 15 per minute, and the pulse may be reduced to normal. Along with the above, emesis is usually produced, and with it comes a goodly quantity of the secretion from the lung. Diarrhœa may also follow. When the above condition of things has been produced, we may be satisfied that the patient is cured, and that only care and precaution should be regarded for a few days.

It is not, however, necessary to push the drug to this extent in all cases. Should we find that it has been pushed a little too far, the depressing effect may be easily overcome by discontinuing it. A hypodermic injection of morphine and atropia may be given, free use of alcoholic stimulants, or, in an emergency, strong coffee may be used followed with the carbonate of ammonia. Emesis and diarrhœa usually disappear with discontinuance of the remedy, and the above stimulation. It should never be forgotten that in using veratrum we are dealing with one of the most powerful agents in the whole range of materia medica. The nurse should be told that if the patient vomits or if diarrhœa commences the drug should be discontinued and replaced by the administration of whiskey. The patient should be seen frequently by the physician, so that the effect of the drug may be watched.

Turning to a very different and most common class of cases, we come to those in the advanced stages of the disease—second or third; or, again, those occurring in the young or middle-aged, previously debilitated by some other disease, those in the aged, or especially those addicted to the excessive use of alcoholics. In such cases the treatment should be entirely different, and should consist of a stimulative plan. The two important indications are to sustain the heart and lower the temperature. Stimulation of the heart, however, when there is some obstruction in the lung, as hepatization, would be unwise, unless we could at the same time help to remove the existing obstruction. This obstruction retards the passage of blood through the lungs and consequently causes damming back of venous blood upon the right ventricle, thus producing one of the most common causes of death in pneumonia—heart failure. Carbonate of ammonia not only stimulates the heart, but by its property of dissolving fibrin, helps to maintain the fluidity of the blood, and being eliminated by the broncho-pulmonary mucous membrane, dissolves and throws out the fibrinous exudate. The dose should be small and repeated at in-

tervals of not over two hours, as it is rapidly eliminated and we wish to maintain its effect.

The second important indication, that of lowering the temperature, may be accomplished by the combined use of quinine and antikamnia every few hours. I prefer the smaller doses of quinia, repeated at short intervals. Antikamnia is an active anodyne and antipyretic, and is, I believe, one of the least depressing of the new antipyretics; the higher the temperature the smaller the dose required to reduce it. Acetanilid, antipyrine, and others of this class, are sometimes used, but I think are more depressing.

Digitalis stimulates the cardio-inhibitory fibers of the vagi, thus slowing the overworked heart, and by increasing the blood pressure acts as a diuretic. I have seen enormous doses recommended, as much as a drachm of the tincture, but I can hardly see the advantage of such large doses, since large doses produce paralysis of the cardio-inhibitory fibers and may derange digestion.

Atropia is sometimes used with much benefit in the latter stages of pneumonia, for its stimulative action upon the heart and respiration. Its effect upon the heart is due to its stimulative influence upon the cardiac ganglia of the sympathetic, and also to the paralyzing action upon the cardio-inhibitory fibers of the pneumogastric.

Strychnine is also used for its tonic stimulative action upon the heart.

I believe, however, the best of all is whiskey, stimulating as it does the cardio-motor ganglia. When judiciously used, it is the best means of preventing or overcoming the cardiac weakness so common in pneumonia. Delirium, muscular tremor and subsultus tendinum are also indications for its use. When the crisis occurs the free use of stimulants is of great benefit. The quality of the whiskey should, of course, be the best; the amount used must vary with each individual, anywhere from a few ounces to twenty or more in the twenty-four hours; there is no disease in which good judgment as to its use is more important than in pneumo-

nia. The quantity must be governed by the effect produced upon the heart, taking the pulse as the indicator. If under its use the pulse becomes dicrotic, intermittent, or irregular, losing in volume and strength and increasing in frequency, unless due to a break down, we are over-stimulating and the amount should be diminished. If on the other hand the pulse increases in volume and force and diminishes in frequency, ceases to be intermittent or irregular, then we may be sure we are benefiting our patient, and continue its use. In cases enfeebled by previous disease, as influenza, which is very prostrating and frequently followed by pneumonia; in the old, and those given to the habitual use of alcoholic stimulants—in such cases alcohol should be used freely from the commencement. In the latter stages, if the disease seems disposed to linger, a large blister over the solidified portion of the lung, followed by warm poultices, will prove of great benefit in clearing up the exudation.

The so called "antiseptic plan" of treatment, which consists in the use of such agents as phenic acid, creosote, boracic acid, the salicylates, etc., is still *sub-judice*, and is, possibly, a profitable field for further experimental investigation. Convalescence may be facilitated by the use of iron, quinine, free stimulation and nutritious diet. The patient should wear flannel, at least, until warm weather returns. He should be careful not to expose himself to the weather for some time, remembering that one attack predisposes to another.

The treatment of the various complications and sequelæ, such as abscess, capillary bronchitis, pleurisy, gangrene, etc., will not be discussed for want of time.

The American Medical Association Will Meet

In Baltimore, according to advertisement on first page of *The Journal*, on Tuesday, *May 7th*, 1895. On reading page 332, we are told that it is *June 7th*, which latter day is a Friday—not Tuesday. Prompt correction should be made by exchanges, etc.

ART. XI.—The Yellow Fever Epidemic of Brunswick and its Management by the Marine Hospital Service.

By J. C. LE HARDY, M. D., of Savannah, Ga.

[Continued from February No., 1895.]

Nothing was done in Jesup to prevent the spread of yellow fever. Owing to the popularity of the methods used by the Marine Hospital Service and the dispatch with which it had enforced quarantine measures at Brunswick, the people of that town felt perfectly secure against the introduction of the *dread visitor*. Several cases of fever which had occurred in the latter part of August and in September were brought to my notice; they were the child of Col. Bennett, Dr. Drawdy, the telegraph operator, and baggage-master. The Bennett child was taken sick late in August and died on September 8th. Dr. Drawdy, who had attended this child, was the second case. All the fever cases were diagnosed and treated as remittent bilious fever by the local physicians, and had no autopsy been made by Surgeon Murray upon the body of Warren, who died September 30th, the citizens of Jesup would have remained quietly at home in blissful ignorance of the presence of *Yellow Jack*. The failure of these physicians (who had never seen a case of yellow fever) to make a proper diagnosis is not to be wondered at. So similar are many of the symptoms of these two fevers that the same mistake is frequently made, even by men of large experience. Witness the case at Tampa in August, 1893, mentioned above. As the disease was already epidemic when its nature was recognized, isolation, segregation and depopulation around the foci of infection were not *applied*, disinfectants were not *wasted*!

Did the lack of these measures, to which *so much importance is attached* by the Chief of the Service, influence the course of the disease? Was the number of cases larger or the ratio of mortality greater than in Brunswick? The sequel will show!

The following information was given me by his Honor the Mayor of Jesup: "All the cases of fever that occurred before the first of October were considered by our local doctors to be bilious fever. Warren died on the 30th of September. The quarantine of the town commenced on October 3d and was kept up until the 17th of November. The cases of the baggagemaster and telegraph operator, who had been sick in September, both Surgeon Murray and Dr. Lincoln say were yellow fever. In 1890, our population was 890. I estimate the population to have been 1,000 just before the yellow fever scare. After the quarantine had been established and guards placed around the town, the census taken by the government gave the population, as near as I can remember, as 665—400 whites and the balance negroes. Including Warren, there were 32 cases of yellow fever—21 whites, 11 negroes; 3 of the whites died; no negroes. We did not receive help from any source, nor did we ask for any. I understand that the Marine Hospital Service employed and paid Dr. Lincoln and all the guards. The sanitary condition of the town was fairly good, excepting that, having had a great deal of wet weather, the ditches and low places were filled with water for some time. The merchants here consider that they lost in trade about \$2,000. We have only two stores of any consequence and one hotel, and while their keepers lost the country trade, they kept their places open all the time and did a brisk business, considering the conditions. The M. H. S. paid in salaries to the guards nearly \$4,000, which was nearly all spent in town. The municipal authorities paid about \$500 in all to destitute families, for medicine, and for sanitary purposes. The population of Jesup in 1892 was 900, but no record of deaths was kept. I do not believe, however, that the mortality ever exceeds one per cent." From one of the leading citizens I obtained the following report: "About the middle of September the baggage agent and operator Rowland were both taken violently ill with fever, and I believe they had a more pronounced type of yellow fever than most of those we had here. . . . They were both convalescent when

Warren was taken sick. . . . Total loss to merchant's business, together with increase in expenses of town, about \$3,000 dollars. The population before the scare was about 800 white and 300 negroes. About 50 per cent. of the whites left town. Dr. Lincoln was surgeon in charge."

One of the local physicians writes: "The population was about 1,100 people—800 whites, 300 negroes. Some 300 whites got away between the 1st and the 3d of October—time at which quarantine was enforced. . . . The infection was confined mostly to one street, although there were a few persons with the fever scattered over the whole town, but these had all been visiting the sick in the infected locality. . . . The town was in the poorest sanitary condition I ever saw it. . . . The privy vaults were in an awful condition; a sickening fecal odor was very perceptible after dark in some portions of the town, but when the epidemic was declared the city authorities cleaned them thoroughly."

If, as it is reported, the population of Brunswick was 10,000 just before Surgeon Branham's sickness, 4,748 persons, mostly whites, were frightened away; since the census taken in the middle of September gives a population of 5,252—of which 1,205 were whites. Surgeon Murray, in his report, gives 1,002 as the number of yellow fever cases; the total mortality by yellow fever 53; 40 whites, 1 Mongolian, 12 colored. The record of cases, as published in the "weekly abstracts" of the Marine Hospital Service, is not only imperfect, but worthless for statistical purposes, as it fails to give the color of the persons up to October 1st, save "5 colored" on September 25th.

If we take all the cases (excepting these 5) that were reported during September as whites, the total number of cases will be 231 whites, 771 colored. From the very carefully-prepared tables found in a pamphlet, called *Estadística Demográfica Sanitaria de la Habana año de 1893*, which I have just received from the author, Dr. V. de la Guardia, I take the following official data relating to yellow fever in the city of Havana:

Population 1893, 200,448; whites, 146,192; colored, 49,619; Asiatics, 4,637.

Ratio of mortality per 1,000 inhabitants, 33.1.

Total mortality from yellow fever, 502; white civilians, 327; white soldiers, 175.

Per cent. of deaths to number of cases of yellow fever, 7.6.

Yellow fever is endemic in Havana, as will be seen by the following monthly table of mortality from yellow fever:

Year.	January.	February.	March.	April.	May.	June.	July.	August.	September	October.	November	December.	Total.
1890.....	10	4	4	13	29	47	69	59	36	34	23	12	340
1891.....	8	4	4	5	7	41	58	57	69	50	28	18	349
1892.....	14	11	2	9	7	15	28	65	69	45	54	34	363
1893.....	14	7	4	7	25	66	126	96	70	45	32	10	502
Total...	46	26	14	34	68	169	281	277	244	174	137	74	1,554

As this or any of the other tables fails to show the number of cases of yellow fever, or the mortality by that disease in the negro or Mongolian races, I wrote to Dr. De la Guardia in relation thereto, but have as yet received no answer. In order to impress the above statistics of later-day yellow fever epidemics more forcibly upon the mind of my readers, and to remove the impression now prevailing that under the management of the Marine Hospital Service the mortality from yellow fever at Brunswick in 1893 was unusually small, I have compiled the comparative table on the following page for the benefit of the medical profession and of our legislators.

They will see that in Havana, which is considered by our people the very hot-bed of yellow fever (where owing to its unsanitary condition, the annual rate of mortality is greater than in any city of the same size in the United States, and where no precautions whatever are taken to mitigate the fever or to check its progress) in 1893, which was an epidemic year, there was *only one case of yellow fever* to every 32.3 inhabitants, and one death to every 399; while at Brunswick, where the annual mortality was 27.50 per 1,000

NAME.	Year.	Population.	Total annual mortality.	Mortality per 1,000 inhabitants.	Total number of yellow fever.	Ratio of cases to number inhabitants.	Total mortality by yellow fever.	Per cent. mortality to cases.	Ratio of mortality by yellow fever to population.	REMARKS.
Havana.	1893	200,448	6,610	33.	6,605	1 to 32.3	502	7.6	1 to 399	Average mortality to number of cases of yellow fever, 5.6—one death to every 399 inhabitants.
Whites.	1893	146,192	4,846	30.2	.....	.....	502	7.6	.....
Colored	1893	49,619	1,764	35.5	.....	.....	.....	.....	.....
Asiatic	1893	4,637	.....	79.1	.....	.....	.....	.....	.....
Havana.	1892	.....	6,882	34.3	.....	.....	363	5.3	.....
Havana.	1891	6,899	34.4	349	5.1	Average mortality to number of cases, 17.3 white, 1.5 negroes—one death to 99 inhabitants.
Havana.	1890	.....	7,298	36.4	.....	.....	340	4.6	.....
Brunswick.	1892	8,342	260	27.57	.....	.....	.....	.....	.....
Brunswick.	1893	10,000	272	27.2	.....	.....	.....	.....	.....
Brunswick.	1893	5,252	.....	.....	1,002	1 to 5.2	53	.....	1 to 99
During the epidemic,	White	1,205	231	40	17.3	Mortality to number of cases, 12 for whites, none for negroes—one death to every 233.3 inhabitants.
	Col'd.	4,047	.....	.....	771	.....	12	1.5	.....
	Mongolian	.....	.....	.....	1	.....	1	100.0	.....
Jesup.	1892	900	9	10.0	Mortality to number of cases, 12 for whites, none for negroes—one death to every 233.3 inhabitants.
Jesup.	1893	1,000	13	13.0	.....	.....	.....	.....	.....
Jesup.	1893	700	.....	.....	36	1 to 28	3	.....	.....
During the epidemic,	White	400	.....	.....	25	.....	3	12	1 to 233.3
epidemic,	Negro	300	11	

in 1892, and every precaution was taken to *jugulate the infection and to stamp out the disease!* there was one case of the fever to every five inhabitants and one death to every *ninety-nine*.

The per centage of mortality to the number of cases in the white race is recorded 7.6 per cent. in Havana, while it was 17.3 per cent. in Brunswick.

As such a percentage of mortality has not hitherto been recorded in these latitudes since the early part of the century, it must be incorrect. I (quoting the word from Inspector Guiteras) "suggest," that *in the anxiety to magnify the size of the epidemic*, all sorts of ailments were reported as yellow fever; this at any rate was the general impression at Brunswick! (in Savannah in 1876 a great number of negroes feigned sickness and tied their heads to obtain rations).

If we peruse some of the letters published above, it will be apparent that the number of deaths reported is by far too great; one, that of a negro child nine days old, who had died before the doctor reached the house, was reported by him as a case of yellow fever from what he heard of the symptoms; another one, three months old, judged to have had the yellow fever because of dark-colored actions from its bowels. Another says: "I reported five deaths, one white, who died of yellow fever. Of the four negroes, none of them died with symptoms usual in fatal cases of the disease. Then we learn that the case of the Chinaman, reported by Dr. Davis to have died of malarial fever, was placed upon the yellow fever list. The above cases were reported by only three of the physicians, while the list comprise the reports of some twenty doctors. Were we to reduce this list to one-half its size, the rate of mortality would still be greater than in Havana! It is evident, therefore, that the methods of the M. H. S. are not calculated to reduce the mortality of yellow fever.

Another serious error into which our people have been led by the Marine Hospital Service is the belief that cities infected with yellow fever fare much better under the new

regime than in former times, and that the loss in trade is far less. These teachings are expressed in Surgeon Murray's letter, when he says: "The quarantine of Brunswick was necessary, wise, and *less harsh than any I have ever known*. Much of the *restrictional measures* being controlled by me inside, there was *less worry and distress and loss of business* than ever known before"—and certainly he has had much experience in this line! In 1882, at Brownsville and on the Rio Grande, he inaugurated "Internal Quarantine" for the first time *in this land of the free!* For the first time our people were held inside of a "cordon," and arrested by guards (with guns) if attempting to cross the *dead line*. Here also the first "punching" of letters with *saw teeth* was done, and the mails "smoked"!—Brunswick, Surgeon Murray thinks, was *greatly favored!* What, then, must have been the experience of the other cities and towns?

Let us place Brunswick in the *focus* of an *achromatic lens* and ascertain if under the *application* of internal quarantine she really fared better than other cities who did not *enjoy that blessing*.

We have already *seen* that rather than be subjected to the "restrictional measures" of the surgeons of the service and be held prisoners in an infected city, 4,748 persons, mostly whites, in a total population of 10,000, rushed into *voluntary exile* as soon as the first case of yellow fever was announced. We know that from the 12th day of August to the 1st of December, 1893, these poor refugees led a most miserable existence! Not permitted to enter any town or village or to travel upon the railways, they were obliged to roam in the woods and shelter themselves as best they could, some being forced through the pangs of hunger to submit to the rules of a "Refugee's camp."

In a letter addressed to the head of the Quarantine Bureau, August 23d, 1893, Surgeon Hutton describes the condition in this laconic way: "The city is very deserted; hundreds of people have gone in the country between here and Way Cross, and are in sad distress." Prior to 1882 such would not have been the case. These people would have

remained in Brunswick and enjoyed the comforts of home at the risk of taking the fever: probably some would have died, but I am sure that the mortality by the yellow fever would have been less than that caused by the *worry, distress, exposure* and *want* incident to a refugee's life.

What of those who remained in Brunswick? Cut off from every source of supply, they were reduced to pauperism, and *absolutely at the mercy* of the chief officer of the U. S. M. H. S., the dispenser of rations and of medicine!

In a dispatch dated Brunswick, Ga., September 23, 1893, Surgeon-in-Chief R. D. Murray says: "The completed census shows a population of 5,252, all told; whites, 1,205, all ages; colored, 4,047. The proper population, about 10,000, of those here, about 4,500, will need assistance. . . . About 60 sick. . . . I give free medicine to all for whom I prescribe. Total contributions to date, \$3,379."

Thus we find that only 752 persons not needing assistance remained in Brunswick, and they comprised the common-sense men, who could not be frightened away; the merchants and their employees held them by business responsibilities, and the doctors and clergymen, whose moral obligation required them to remain. In addition to these, there was also that peculiar breed of speculators and land sharks whose numbers (thanks to the keen eye and incisive pen of the *Reporter*) are gradually diminishing, who, vulture like, prey upon the dead and the dying, and infest stricken communities in order to transfer to their own coffers the money intended for the relief of suffering humanity!

Thus we see the great bulk of Brunswick's *epidemic population* (4,047) was made up of the direct descendants of the "forty acre and a mule" *post-bellum politician*, and the other 453 the jolly members of the genus "tramp." *No work, free medicine, plenty rations—big appropriations!* and why should they have been distressed or worried under such "paternal" administration?

All the kicking and fuming had already subsided when Officer Murray was put in charge, as his predecessors can tell! In the early days of September, just before the re-

removal of the "first" quarantine, the officers of the new *regime* were not popular! The best and the most interested part of the community (barring the sharks) upon discovering the blunders that had been committed, because indignant at the restrictions that had been placed so unnecessarily upon commerce, personal liberty and travel, and they gave vent to their feelings. Sulphurous emanations filled the air and threatening clouds overcast the surrounding ambiant! Had Murray been there, he himself would have been worried and distressed!

What of Brunswick's loss in trade, etc.? To ascertain this, it would be proper here to submit tables comparing the losses sustained by Brunswick while under the management of the Marine Hospital Service and the quarantine restrictions which they imposed upon her people, with those of Savannah in her epidemic of 1876, when her population exceeded 35,000, where no restrictions whatever were placed upon commerce or travel, and where *personal liberty remained as sacred and inviolate as in the days of Jefferson and Calhoun!* To this end, I addressed a number of letters to her business men, to the Mayor, and to other officials, hoping to obtain complete data from which to calculate the loss to local trade, to foreign and coastwise commerce, to railroad corporations, to real estate, to *public morals*, etc., etc. From the business men I could obtain no information whatever in writing; they were afraid, as one of them said, "to go on record;" or, as one other expressed it, "they did not care to say anything in relation to the epidemic, or of the methods of the Marine Hospital Service, for fear that in case a real epidemic should come sure enough, they could not humbug the people a second time, or obtain the same help from the Government." From Mayor Lamb, who was in office during the epidemic, and his successor, Dunwoody, I received promises which were never fulfilled. The only public officer who answered promptly and pointedly to my queries, was Col. J. H. Devaux, colored, the Collector of Customs, and I transcribe his answer in toto.

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Imports and foreign exports at Brunswick, Ga., from August to December 31, in the years 1892 and 1893 :

	1892.	1893.	1892.	1893.
	Value of	Imports.	Value of	Exports.
August	\$ 6,349 34	87 50	\$ 126,125	\$ 170,562
September.....	None.	18 00	188,112	137,187
October.....	None.	None.	849,400	508,442
November.....	12,237 50	None.	1,574,340	433,508
December.....	445 65	None.	898,147	506,691
	\$19,032 49	\$105 50	\$ 3,636,124	\$ 1,756,390

Or a total loss of \$1,898,660 99 during the epidemic. To this should be added the loss in the coastwise exports, which I have not been able to obtain. But I found in the report of the President of the Brunswick Board of Trade the following comparative table, which will give some idea of these losses :

	1892.	1893.	Pr. Cent. Loss.	Amounting to more than one million dol- lars.
Cotton—Bales	162,203	148,984	8	
Rosin—Barrels.....	189,683	160,755	15	
Spirits Turpentine—Pounds....	56,240	45,269	19	
Lumber—Feet.....	108,972,200	81,999,000	24	
Phosphates—Tons.....	18,676	31,256	Gain 40	

That there is no exaggeration in this table, will be seen by the following statement made by the president of one of the largest lumber firms for me: "We had a branch office in Brunswick which was necessarily closed at the beginning of the epidemic. The value of the lumber we had on hand was \$7,296 88, upon which we realized \$2,002.27—a loss of \$5,294.61."

SAVANNAH'S

Imports.		Gain.	Foreign Exports.		Loss
1875.	1876.	1876.	1875.	1876.	1876.
\$ 511,528	\$ 564,937	\$ 53,409	\$ 18,121,252	\$ 16,244,081	\$ 1,877,172

COASTWISE EXPORTS.

	1875.	1876.	1876—Gain.
Upland Cotton..... }	219,881	224,651	4,770
Sea Island Cotton—Bales..... }			
Lumber—Feet.....	24,324,674	27,814,972	3,490,298
Naval Stores—Barrels.....	60,738	102,274	41,536
Spirits Turpentine—Barrels.....	13,802	18,453	4,651

The coastwise exports represent a gain of about \$1,255,956 upon that of the preceding year, to which must be added the gain of \$53,409 in imports, or \$1,309,365 during 1876, leaving a net loss of \$567,807 caused by the epidemic as compared with the \$1,898,660.99 in imports and foreign exports only in Brunswick, which go to prove that the methods of the Marine Hospital Service do not prevent, or even diminish the loss in business entailed upon cities by yellow fever epidemics, but, on the contrary, they are disastrous both in their immediate and remote effects.

[CONCLUSIONS TO APPEAR IN OUR NEXT NUMBER.]

Clinical Reports.

A Case of Intestinal Obstruction by Worms.

By JOHN A. DAVIS, M. D., of Dry Branch, W Va.

Courtney C., age four years. On Sunday evening, January 6th, 1895, father of child called at my office, saying that his child was sick, and he thought it was worms. Gave this history: the child was cross and fretful; appetite capricious; first ravenous, then none at all; screams in sleep; grits her teeth, and picks at nose, etc. So I prescribed the following:

Ry. Calomel.

Santonine.....āā gr. x.

M.—Make Powd. No. v.

Sig.—Take one every hour. Follow last in two hours, with one-and-a-half tablespoonfuls castor oil, with four drops spirits turpentine in it, which was done.

I heard nothing more from it (child) until Tuesday A. M

early, January 8th, when father returned, saying he wished I would go out to see the child, as it was worse, and had only had a slight action on bowels on Monday A. M. at 10 o'clock, when it passed one or two worms. Also said that the child (as he expressed it) had great knots all over its bowels. So I went out in mountain, two-and-a-half miles, to see the child; found it suffering right much pain in bowels; also the following symptoms: Pulse small and thready, 120 per minute; temperature, $100\frac{1}{2}$; tongue dry and heavily coated brown; face wore an anxious pinched expression; nauseated, vomiting at intervals; child lying on side with legs flexed on thighs and thighs on abdomen, so as to relax the abdominal muscles. On palpation, could feel the nodules (that father called knots) very perceptibly, some four or six in number; very slight tympanitic sound on percussion, except over-nodules, which was dull; bowels very sore and tender to touch, also the history heretofore given.

My diagnosis was worms forming the nodules causing obstruction. So I again gave calomel and santonine—three doses as before, instead of five.

I saw her again late that afternoon about 5 o'clock. There was no amelioration in the symptoms, but getting worse instead; nor had she passed anything per rectum. So I gave her one-and-a-half tablespoonfuls castor oil, with one-third drop croton oil in it, with instructions if no move on bowels in three or four hours, to give one-third drop more of croton oil; then repeat the croton oil, one-third drop, in two hours, if no move, which had to be done. (I would have used an enema of warm soapsuds water, with little glycerine in it, but had no syringe, nor could I get one—there not being one in the neighborhood.) Still no action on bowels until next A. M. (Wednesday), five minutes to 10 o'clock, when she passed a knot of ten worms about the size of a guinea or partridge egg. In twenty minutes she passed another knot of eight worms. I called about 11 o'clock, when I found all the nodules in bowels gone except one or two. I thought then the trouble was all over, but found it was not true. I then had hot hops poultices applied to bowels to relieve the soreness and tenderness all Wednesday night, as I had done Tuesday night.

When I was quite young, an old woman said to my grandmother, while I was suffering from worms, "That a hot double tansy poultice applied to the nable (as she expressed

it) would make the worms turn loose." I don't guess many children ever grow to man or womanhood without some time or other in their life having suffered from worms. So I knew it could do no harm if no good.

I had it applied over umbilicus and the hot hops poultice all over the abdomen; after which, I used hot stupes of spirits turpentine and camphor. Saw her again Thursday A. M. about 11 o'clock. The nodules (one or two) were still there, and no further action on bowels. I again prescribed four powders (same strength) of calomel and santonine as before; to be taken every hour, the last to be followed in two hours with one-and-a-half tablespoonfuls of castor oil, with one drop croton oil in it, and 15 glycerine, which was taken about 5 o'clock P. M. This acted nicely about 8 o'clock, when she passed twenty-seven more worms in two nodules. The next day (Friday) she passed seventeen more. Since then, she has passed in a week's time nineteen more at different times, making a sum total of about eighty-one or eighty-two worms. They were the *ascaris lumbricoides* (or large round worm), and nearly all well developed. Friday A. M., she went to table—ate breakfast—the first she had eaten since Sunday at dinner, and then not much. She has been improving ever since. Through the whole case, the temperature never was above 100° F. There was complete anorexia, etc. Some may think this right heroic treatment, but in this case it was, as the old man said, "a case of 'nepushity' or death"—she had to get rid of the worms or die. I had often read of such cases, but never before in a year's practice had I seen one.

A Case of Reparative Surgery of the Eye-Lids.

By CLARENCE R. DUFOUR, Phar. D., M. D., of Washington, D. C.,

PHYSICIAN-IN CHARGE OF EYE DEPARTMENT EASTERN DISPENSARY, OPHTHALMOLOGIST AND OTOLOGIST TO SIBLEY MEMORIAL HOSPITAL, ASSISTANT IN EYE AND EAR DEPARTMENT OF CENTRAL DISPENSARY AND EMERGENCY HOSPITAL, AND INSTRUCTOR IN OPHTHALMOLOGY AND OTOTOLOGY, GEORGETOWN MEDICAL COLLEGE, WASHINGTON, D. C.

Mr. X. called at my office for treatment for his eye. He stated that several months since he was attacked by a much larger and stronger man than he was; in the affray, his assailant severely lacerated his eye-lid, biting out a piece of

the upper one. He was taken to a hospital; the wounds were sutured and dressed. After recovery, he found that the lids were grown together for half their width. So that the temporal half of the eye-ball was covered by them. Owing to this condition, he could not see objects on that side, which was a very serious matter to him, as he had narrowly escaped being run over by vehicles at various times. The tension of the lids caused pain and annoyance—foreign bodies frequently found their way under the lids and caused considerable inflammation.

When I examined his eye, I found the whole conjunctiva—palpebral and orbital—in a highly inflamed condition, and a small ulcer on the inner and upper part of the cornea. I gave him the usual treatment for the inflammation and ulcer. I suggested an operation as the only means of giving him a better visual field and of relieving the tension—this to be done when the inflammatory symptoms had subsided; to which he consented.

Being a man of considerable nerve, he declined a general anæsthetic; so I cocainized the parts as thoroughly as possible, not using any hypodermically. With a sharp straight scissors I made a horizontal cut from the point of union of the lids to the edge of the bony orbit. After controlling the hæmorrhage, I trimmed off some of the redundant tissue, and sutured the incised conjunctiva to the upper and lower lids respectively, dressed it with iodoform gauze, and instructed him to report to me the next day. The parts healed nicely, and in a couple of weeks he had complete use of the lids, and was able to see objects on the temporal side of that eye, as well as with the other. I have recently seen this patient, and the good results still continue—no narrowing of the palpebral opening.

1016 I Street N. W.

Antikamnia Quinine and Salol Tablets

Are specially serviceable in allaying the pains of influenza, especially when associated with pyrexia or hyperpyrexia. The "tablets" are composed of two grains antikamnia (to control neuralgic element); two grains salol (nearly a specific for rheumatic affections); and one grain quinine (to tone up the heart).

Correspondence.

Chloroform in Labor

Mr. Editor,—I desire to publicly thank Dr. Ricketts for his excellent and humane article, "Chloroform in Labor," in your February number.

Pain is the primal curse, but we have a newer dispensation. Ex-President Grant requested his physicians not to let him suffer, and this is the audible and mute desire of humanity.

That obstetrician who tries to drown the plaintive cry with the barbarous *travail* quotation—sometimes mispronouncing the word—offers a stone, increases the grayness of his own hair, and shortens his life, for suffering is reactive. Show me a young man who does much obstetrical work without chloroform, and he is prematurely gray, if not bald. Loss of sleep, you will say; yes, and he should have lost his diploma, or have renounced obstetrics. He is a negative instrument of a most heartless inquisition.

The neglect of the use of chloroform in labor is at the bottom of much andromania, and who would not be a man under the circumstances, and the one chick family.

The population of any civilized State is large and happy according to the amount of anæsthetics used, leaving out morals, and not calling such people as the Chinese uncivilized. Can we expect lovely "woman who sometimes only escapes being sick twelve times a year by having an illness which lasts nine months," not to dread the climax of unmitigating pain? The average supersensitive American woman, who does not know that she is cruelly deprived of her birthright shudders with horror at the thought of giving birth, and in sombre thought suggests the picture: "A Career or Matrimony?"

Paradox of paradoxes; one of the Hodges used in this connection the words, "agonizing and semi-delirious," yet deprived woman of the heavenly boon.

To the cowardly and nonsensical assertion that suffering

in labor is necessary in order that the mother shall love her child, Dr. Parvin aptly and facetiously replies: "Nature seems to have made no corresponding provision to secure paternal love."

I was early impressed with *the* gift of the gods, as with this merciful Lamp of Aladdin the patient was borne to the Elysian fields. It was in a maternity for negroes: "White gemmun, please put some more 'fume on dat rag an let me smell it, for de Lord's sake, an—ease—dis—here—misery, um!" Since that pathetico-comic time I have always preached, and seldom failed to practice, woman's rights—in labor.

I have not seen any very late statistics of the fatality of chloroform in labor, and the hope is father to the thought that the word "forty" in the paper is a typographical error for *four* (?).

The color of the ear is quite a good index in chloroforming, and can always be observed.

THOS. R. EVANS, M. D.

Mt. Carbon, W. Va.

"Devil's Snuff" for Epistaxis.

Mr. Editor,—I read an account in the Petersburg *Index-Appeal* of the death of a young man, a student at the University School (McCabe's) from epistaxis, who had eminent medical attention, but death ensued in spite of all that was done.

I write only to say, that during a practice of fifty-one years I have had much experience in such troubles where death seemed imminent, and all the usual remedies failed to give relief, until a very ignorant person told me on one distressing occasion of a whole night that if I would get some "*Devil's Snuff*," a species of mushroom—fungus, myces (F.)—it would give relief. I did so within an hour after the information, and the effect was wonderful. The powder was snuffed up the nostrils and the bleeding ceased as soon as

contact was made with the point of bleeding. I have used it repeatedly, and have *never* been disappointed.

The plant comes on thin soils by the roadside and in the vicinity of decaying oak stumps, growing flat on the surface of the ground, sometimes in patches of a dozen in a small space about the size of a walnut. In the fall it begins to dry, and when dry, you may tread upon it and a profuse cloud of dark brown snuff is puffed up from the top of the fungus.

I have known of this plant all my life, but never thought to write about it till I read about the death of the young man alluded to above. I do not know the *why*, but do know the fact as stated.

THEO. AGRICOLA HALL, M. D.

Newville, Prince George Co., Va., Jan'y 13, 1895.

(I.) **Scalp Wound—Discharge of Brain Substance—Recovery.**

(II.) **Labor—Cephalotripsy—Recovery of Mother.**

Mr. Editor,—I was called to see two cases sometime ago that I have thought might be of some interest.

The *first* was that of a colored boy about thirteen years of age, who was thrown from a horse on the road. Another horse, rough shod, was running at full speed in the opposite direction from which he was coming, trod on his head and left the imprint of about half the shoe on the boy's head, the heel going through the scalp and parietal bone above the right ear to the brain; three of the heads of the nails to the shoe only went through the scalp. I met several persons on their way from the scene of the accident who told me it was useless to go further as the boy was dead. As I was within a few hundred yards of where he lay on the roadside, I continued my journey to see him.

I found him cold and almost pulseless. I had him carried to a house near by on a blanket. After stimulating him awhile his pulse and breathing became better, and at the same time I noticed a portion of his brain oozing out of the hole made by the heel of the shoe. I sent to a physician for a trephine, but did not succeed in getting one. I put a little spirits turpentine around the edge of the wound and applied a wet cloth and bandage over it, and left him for the night, expecting to find him dead the next morning,

as I left him entirely unconscious; but the next morning I found that he had been out during the night to obey a call of nature. Consciousness had returned, and his pulse was very little above normal. The nurse said she had wiped off some more of his brain that had oozed out during the night.

I met Dr. Wm. Huff there (upon whose land the boy resided), and we decided as long as the symptoms were favorable not to operate. He continued to improve; walked home and went to work in ten days after the accident, and Dr. Huff says has more sense now than he had before.

If the doctor is correct in his view of this case, it explodes the old idea that brains are essential to negro intelligence.

The *second case* was that of a woman about twenty years of age (a primipara), who had been in labor about thirty-six hours. I was called in consultation by Dr. L. C. Purdy. The pains had ceased, the os was partially dilated, the face and feet were in contact, and presented the child lying across the pelvis. After we got the woman under the influence of chloroform, I endeavored to turn and deliver the child by pulling down one of the feet. I discovered that the antero posterior diameter was unusually small, and, in consequence of the child having been dead sometime, the skin slipped and I could not hold the foot. We finally succeeded in getting a cord around it, and in trying to move it the leg pulled off at the knee. We then succeeded in getting a loop around the stump, and after using considerable force, got the body of the child away in a flattened condition, leaving the head behind, the chin having hung over the pubic bone.

We then had the difficult problem to solve of getting an apple through an auger hole one-fourth larger than the hole. We could not grasp it with the forceps, and we were forced to the expedient of getting a pair of pot-hooks and cutting one end off some eight or ten inches in length. After oiling this instrument I succeeded in passing it up by the side of the head, turned it, and with the prong cut the brains out. After they were discharged I had quite an easy task to remove the flabby mass of cranial foetal bones and scalp. We ordered the vagina washed out several times with a very dilute solution of tepid carbolic acid, and enjoined perfect cleanliness. Under the judicious treatment of my friend, Dr. L. C. Purdy, the woman made a speedy recovery, and was attending to her household duties in three weeks.

I thought these two cases might be of interest to our city brethren, who, I am sure, do not quite appreciate the difficulties that we country doctors labor under for the want of instruments, etc.

The first case teaches that we should not be too hasty in operating, but when the symptoms are improving, should give the patient a chance for his life.

R. S. POWELL, M. D.

Wood View, Brunswick Co., Va.

Hæmoferrum (Blood Iron)

Is a natural proteid compound aseptically prepared from fresh bullock's blood, put up in 3 grain pilloids (flat pills), with a highly soluble coating, by F. Stearns & Co., Detroit, Mich. They claim their hæmoferrum to be extremely soluble, pleasant to the taste, agreeable in odor, readily and easily assimilated, neutral in reaction, non-constipating, non-irritating and non-poisonous, even in large doses. It has the cordial endorsement of prominent physicians in Detroit, in which city it has been thoroughly tested clinically. Dr Hal C. Wyman, Professor of Surgery in Michigan College of Medicine, states: "The Pilloids of Hæmoferrum (Stearns) have, in my hands, proven a splendid tonic. In wards of the Detroit Emergency Hospital, we have learned to depend upon them in the preparatory treatment of patients who must undergo severe surgical operations, and they have proven useful in the establishment of convalescence." Hæmoferrum is especially valuable in treating cases of anæmia and chlorosis. Messrs. Stearns & Co. will mail samples, with full descriptive literature, to physicians interested, and on receipt of ten cents will forward a full-sized package containing 100 pilloids, a quantity sufficient for a thorough clinical test. Write them.

The Therapeutic Reference Book,

Recently issued by Messrs. Wm. R. Warner & Co., Philadelphia, Pa., will be mailed to any of our subscribers who may remit the firm fifteen cents to cover the expenses of sending, etc. "It is a good thing."

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M. D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary;
Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of
the Eye in the University College of Medicine, Richmond, Va.

A Set of Laryngeal Cannulæ.

For the removal of laryngeal papillomata, the below described cannulæ, made for me by Messrs. Barlett, Garvens & Co., of Richmond, Va., I have found to answer more satisfactorily than any of the various forceps or snares with which I am acquainted. The accompanying cuts show the



cannulæ, reduced in size. Each cannula consists of a hollow tube, whose distal extremity is flattened until there is left just space enough between the walls for the passage of a No. 2 piano wire. This flattening of the distal extremity of the cannula is of the first importance, serving, as it does, to allow the formation of a pear-shaped loop, thus preventing the wire from pulling against the extremity of the cannula. Furthermore, the flattening of the walls holds the snare loop in position, preventing its revolving on its axis, one of the reasons why, from time to time, the round-end cannula is so difficult of manipulation. The cannula is small in diameter, being only two mm., thus interfering little with the proper illumination of the laryngeal cavity. The length of the vertical part of the cannula is three and

a quarter inches. I have found this cannula to serve well as a snare-carrier in cases as laryngeal papillomata in adults. For children, the vertical portion of the cannula would have to be shortened. A stouter tube would be required for the denser growths of the larynx; but for growths offering as little resistance to the wire of papillomata do, the above described cannula is all that is needed. The Hartmann handle is the best for this cannula. So far as I am able to judge, there seems to be no objection to the removal of these growths by snaring. The bleeding is trifling. The growth is coughed into the mouth immediately after its removal. The number of these cannula for use in the larynx is two, in one the tube at the distal end is flattened so that the wire loop can be formed in the plane of the cannula, and is to be used for the removal of growths having their origin at the sides of the larynx. The second cannula has its distal end flattened at right angles to the plane of the tube, and is to be used for the removal of growths having their origin at the anterior angle or at the posterior laryngeal wall.

The flattened cannulæ, made of varying lengths, two for the region of the root of the tongue, two for the nasopharynx, one for the faucial tonsils and nose, one for the ear, will do all of the snare work of these regions.

Removal of the Lens, Capsule Remaining After the Needle Operation.

In young children, the needle operation is to be preferred, and for several reasons, as a better method than extraction. In older children, often, and, save in exceptional cases, always in adults, extraction, with the use of Smith's capsule forceps, is the more satisfactory operation. It sometimes happens that persons who, in the early years of life, have been operated upon by the needle operation for the removal of a cataractous lens, have, as the result of the operation, portions of the *anterior capsule*, now opaque, hanging free beyond the pupillary margin. There are two reasons why the pupillary space should be freed of this membrane, if it can be done with safety—namely: because of the interference with distinct vision, and for cosmetic reasons. Should

the iris be dark, the whitish fringe form an opaque capsule, producing an unpleasant appearance about the eye. Where absorption of the lens substance, following the needle operation, has taken place, and no adhesions, *or only slight ones*, between the iris and the lens capsule have resulted, this opaque capsule can, as a whole, be removed.

The pupil should be as thoroughly as possible dilated with atropia. A small corneal section should be made, following which, a small upward iridectomy. A pair of blunt iris forceps should then be inserted through the corneal wound, the capsule grasped firmly, and pulled out of the eye. If there are no adhesions to the iris, the capsule, as a whole, comes away readily enough. There is usually a small escape of vitreous. Where the adhesions to the iris are slight, they separate easily enough, as traction is made on the lens capsule. Where the adhesions are numerous or extensive, the extraction of the lens capsule is not to be advised.

The following two cases operated upon, may be reported:

Mary S., negress, aged 28; healthy in appearance; had, when a child, both eyes operated upon for cataract—needle operations. The results were unsatisfactory, inasmuch as a whitish fringe surrounded both pupils, extending in one eye almost across the pupillary area, interfering much with the vision of the eye. In the left eye, the iris was free; in the right, there were slight adhesions to the iris edge. The above mentioned operation was done in both eyes, with as results all that could be desired—cleaning of the pupil, and hence improvement of the vision. No unpleasant result followed from the slight drawing on the iris of the right eye. In both cases, a slight amount of vitreous was lost, which, however, had no unpleasant consequences. Unfortunately, the negress could not read, and showed generally so little intelligence, that I was unable to compare the vision before and after the operations.

Removal of the capsule is not to be advised where there are reasons for believing that the vitreous is diseased.

Note on Perforating Phlyctenes.

Phlyctenular ulceration affecting the sclero-corneal margin not infrequently perforates the cornea, and is followed

by prolapse of the iris. *Where this perforation is seen early enough, we are sometimes able to restore the prolapsed iris, after making a section of the cornea above and below the perforation..* Unfortunately, in many cases this is rendered impossible by the adhesions forming between the iris and adjacent tissues. Sometimes it happens that the patient consults us before the perforation takes place, although we are able to see that unless something be done, perforation and prolapse are inevitable. In these cases, external applications are powerless to prevent the perforation. Section of the cornea, with the ulceration as its centre, will often prevent prolapse.

Let us see the case of James B., aged 12, negro, who came to the Richmond Eye Clinic for treatment. He had in the right eye a single phlyctene, situated at the sclero-corneal junction opposite the caruncle. This phlyctene, $1\frac{1}{2}$ mm. in diameter, extended through all the layers of the cornea down to the membrane of Descemet. Perforation was inevitable. The eye was cocainized, and a small cataract knife was inserted into the healthy cornea about $1\frac{1}{2}$ mm. above the ulcer, carried behind the ulcer and brought out about $1\frac{1}{2}$ mm. below it again in the healthy cornea. A section, as though for an iridectomy, was then made, the aqueous being allowed to escape slowly. There resulted no prolapse of the iris. The eye was bound with a bichloride pad—a yellow oxide salve being prescribed. The eye healed normally; the pupil remained round; the ulceration in the corneal tissue gradually filled in.

Note on the Treatment of False and True Granulations with the Curette.

It is not proposed in this place to consider the identity or non-identity of conjunctivitis follicularis and conjunctivitis trachomatosa, whose manifestations as granulations are here called false and true merely for clinical purposes. Since the introduction of Knapp's roller forceps, it has been possible to shorten the treatment of the majority of the cases of granular lids.

In regard to the treatment of conjunctivitis follicularis: Where the number of granulations is large, the cul-de-sac fold of mucous membrane containing them should be rolled

with Knapp's forceps, the contents of the granulations being thus expressed. Where the number of granulations is small, it will often be found best to make use of a small corneal cup-shaped curette with which it is easy to open the granulations, and thus allow the escape of their contents.

In regard to the treatment of conjunctivitis trachomatosa: Knapp's roller forceps should be applied to both upper and lower culs-de-sac. In this form of conjunctivitis, the trachomatous bodies are seldom limited to the mucous membrane of the culs-de-sac, but are found in that covering the inner surfaces of the lids. For the granulations thus situated, the roller forceps are useless. The use of the corneal cup-shaped curette is here to be advised. With this instrument the top of each granulation is to be scraped off. It is a simple operation, and one that requires the use of but little force. With the aid of Knapp's forceps and the small curette, the treatment of practically all cases of conjunctivitis follicularis, the majority of cases of conjunctivitis trachomatosa, when seen in the earlier stages, and of some of the cases of this latter trouble, even when old, is eminently satisfactory.

There are a few minor points to be observed in the treatment of the conjunctiva after the application of the roller forceps and the curette. A piece of absorbent cotton should, in all cases, be dipped into a 1-3000 bichloride solution, and then be used to *thoroughly* wash the conjunctival surface, especially the parts which have been rolled or curetted. There should be ready at hand, in the cases of conjunctivitis trachomatosa, a salve of iodoform and boracic acid, which should be plentifully used in the eye every two hours for the next few days. The re-action following the use of forceps and curette is often severe when the extent of the trachomatous involvement is large, and in old cases there sometimes results corneal ulceration as the result of this treatment.

This can be, to a large extent, avoided, or, at least, modified by the plentiful use of the above-mentioned salve, which, besides being useful for its antiseptic and healing properties, prevents, through its lubricating properties, to

some extent, the inner aspects of the lids from rubbing their rough surfaces against the cornea.

In addition to the use of the bichloride wash and the salve, cold water should be applied to the lids for a time, more or less long according to the severity of the case, and constitution of the patient, which latter must always be borne in mind in our directions in regard to amount of heat and cold to be applied in ocular inflammation.

A Case of Monolateral Anosmia.

Miss G., aged 26, consulted me in 1892 for complete bony occlusion of the right nose. The bony membrane was situated posteriorly, and extended from the floor of the nose to the nasal vault in a plane about one-fourth of an inch anterior to the posterior edge of the vomer. It also extended from the vault internally to the external wall of the nose. In the nasal cavity, nothing abnormal was to be noted save that a quantity of whitish mucus accumulated there, and was the source of much annoyance to the patient. And, further, that there was a large empty chamber in the region of the posterior ethmoidal cells, as though they were deficient. The middle and inferior turbinates were normal in appearance. The patient complained that she was unable to smell anything with this side of the nose. This bony septum was removed to a level with the middle turbinate. It was found to be about 4 mm. in width along the floor of the nose, while it decreased about its centre to about 2 mm.

In January, 1895, Miss G. consulted me about the left side of her nose, mentioning incidentally that she could not, as yet, smell with the right side, although she breathed through it very well. To test the power of smell in this side of the nose, I made several experiments, thinking that possibly the fact that the upper posterior part of this nose was still occluded might prevent the air from reaching the region of the middle turbinate and the olfactory portion of the septum.

Accordingly, the opening into the post-nasal space of the right side was closed by packing it with cotton, and the patient was made to close the left nostril with her forefinger. A cotton probe was dipped into chlorine water and rubbed against the middle turbinate of the right side. No odor could be perceived. The cotton was next moistened, and rubbed against the crystals in a bottle of lavender salts; it was then carried into the right nose and again rubbed

against the olfactory membrane. No odor could be perceived. Iodoform was in like manner tried. No effect.

This would seem to show that in a case where there had existed complete posterior occlusion of one nose for twenty-four years the olfactory nerve of this side would lose the power of perceiving odors. This case, however, does not necessarily prove this, inasmuch as there might possibly have existed some congenital malformation of the olfactory nerve of this side, or its development might have been impeded by a malformation of the bones composing the olfactory trough, as in a case I saw not long since, where, while on the right side the cribriform plate of the ethmoid was normal in size, in the left side the crista galli impinged upon the encroaching orbital plate of frontal, thus preventing a proper development of the olfactory nerve for this side.

Note on the Etiology of Nasal Polypi.

The following observation tends to show that venous obstruction anywhere in the nasal mucous membrane may result in the production of polypi, and that although ethmoidal necrosis is often an accompaniment, nay, a precursor of these growths, that this is not necessarily the case:

Mrs. S. consulted me in regard to the condition of her nose. I shall call attention to but one feature of the case. There was practically complete occlusion of the right nose anteriorly. There was a puffy condition of the anterior end of the inferior turbinate, above which was a grayish tumor, sessile, in color resembling a mucous polyp. In size, this tumor approximated the anterior end of the inferior turbinate; so that on the first glance into the nose the appearance presented was that of a double inferior turbinate with both anterior ends much swollen. Examination, however, quickly showed that such was not the case. The growth took its origin from the mucous membrane of lower part of nasal process of the superior maxillary, forming the outer wall of the nose. *The anterior end of the middle turbinate was hypertrophied, and so elongated as to make firm pressure for a space of several millimetres, the breadth of the polypoid growth, against the nasal process of the superior maxilla just posteriorly to the area from which the polypoid growth took*

its origin. This growth, then, springing from the outer wall of the nose, was, beyond question, the result of the pressure exerted by the anterior end of the middle turbinate. There was no disease of the subjacent maxillary bone. After removal, the growth resembled in translucency, in its watery gray color, and in its smooth surface, other nasal polypi. In appearance, it was entirely different from the hypertrophies of the inferior turbinate tissue. To the touch, it felt a little firmer than do the larger nasal mucous polypi.

Accompanying is the report of Dr. M. D. Hoge, Jr., who kindly examined for me the growth :

“The specimen removed by Dr. Dunn from the nose was a soft, white, oval tumor, measuring one-eighth of an inch in width and one-fourth of an inch in length. It was fixed in corrosive sublimate, hardened in absolute alcohol, embedded in paraffin, and some sections stained in alum carmine, and some in picro-fuchsin.

Under a moderate power (x 130), numerous mucous crypts, which can be seen communicating with the external surface, are found under the epithelial lining as well as in the deeper parts of the tumor. The nuclei are of the cellular elements of the tissue, are round, and those of the cells lining the mucous ducts and glands are oval, and situated near the basement membrane.

Under a higher power (x 600), the spindle-form and branching cells, containing distinct round or oval nuclei, forming the myxomatous (mucous) tissue, proves conclusively its nature, and that it does not belong to the fibroid group of nasal tumors. In one respect, this particular specimen differs somewhat from a true mucous polyp, in that the erectile tissue, in places, is very distinct. The wide spaces are lined by a single layer of delicate endothelium. The external epithelial covering is not of the ciliated columnar variety, as was expected, but is composed of stratified low columnar cells. The growth, then, is a mucous polyp, composed of myxomatous tissue, containing hypertrophied mucous glands and some erectile tissue.”

Alcoholic Nausea.

If the stomach of your patient is nauseated by the excessive use of alcoholic stimulants, administer one or two teaspoonfuls of *Seng* every hour or two until his stomach is O. K.

Department of General Surgery.

Conducted by STUART MCGUIRE, M. D., RICHMOND, VA.

One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital;
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Cataphoric Use of Cocaine in Localized Neuritis.

Gaillard's Medical Journal for February contains a clinical lecture delivered in the University College of Medicine, Richmond, Va., by Dr Hunter McGuire. One of the cases presented was a patient on whom Dr. McGuire had operated six months before, excising the inferior dental nerve for obstinate neuritis. The operation was followed by immediate relief, and the patient returned home.

Several weeks ago, however, he came back suffering with pain in the distribution of the lingual nerve. Efforts at mastication were so painful that he lived on liquid food, and swallowing or speaking, or moving the tongue in any way, brought on violent paroxysms of pain. The patient was anxious to be operated on again, but as he had taken the anæsthetic badly before, and the inflammation showed tendency to progress, it was determined to try the effect of the combined use of electricity and cocaine before resorting to the knife.

The positive pole of a galvanic battery, saturated with a 4 per cent. solution of muriate of cocaine, was placed in the mouth over the nerve as it passes over the side of the base of the tongue, and the negative pole placed on the external surface of the cheek, and a current of five milliamperes used for five minutes. The pain was instantly relieved, and did not return for twenty-four hours—a period much longer than would be required for the effect either of the electricity or the cocaine singly to wear off.

Since that time, the patient had been treated daily in the above manner, and now has only occasional slight twinges of pain, is able to speak distinctly, and to masticate solid food, and there is every reason to hope that a permanent cure will result.

Dr. McGuire first called the attention of the profession to the value of the cataphoric use of iodine in goitre and enlarged lymphatic glands, and the efficacy of the agent is now generally recognized. He said that he believed that cocaine has at least as wide a field of application, and that he would watch the further investigation of the subject with much interest.

It is easily demonstrated that if the positive pole of a galvanic battery be saturated with any detectable substance, and a current allowed to pass, the same substance can be detected at the negative pole, thus proving that the current, which flows from the positive to the negative pole, has carried it through the tissues with it; this is a purely physical process, and is known as cataphoresis.

Now, if the substance placed on the positive pole be one which has an intrinsic effect on the tissues through which it passes, the effect of the cataphoresis will be two-fold—the effect of the current and the specific action of the drug. For instance, if the positive pole be moistened with a solution of strychnine and applied to the skin of a rabbit, and the negative pole be placed on some indifferent spot and a current passed, the animal will not only be affected by the electricity, but poisoned by the action of the strychnine.

In the case under discussion, the positive pole was placed over the inflamed nerve, not with the intention of getting its action, but because it was the pole from which the current flowed, and which drove the cocaine into the tissue. Incidentally, however, its effects were obtained.

The two poles of a galvanic battery have distinct actions. The positive pole decreases the excitability of a nerve, and acts as a sedative. The negative pole increases the excitability of a nerve, and acts as a stimulant.

Thus, fortunately, in the cataphoric use of cocaine to relieve pain in an inflamed nerve, the pole of the battery which is itself an anodyne, is applied over the seat of irritability, and its action augmented the sedative effect of the drug.

Cocaine, when applied to tissue, bleaches it, by contract-

ing the blood vessels by its specific action on the vaso constrictor nerves and produces local anæsthesia, which is attributed by some writers to a paralysis of the terminal twigs of the sensory nerves and by others to a vaso motor stimulation, rendering the nerves bloodless, and thereby unable to transmit the sensation of pain.

Dr. McGuire said that it is at least plausible that in the inflammation of nerves, which is accompanied by the usual local phenomena of that condition—namely pain, swelling, heat, redness, and disturbance of function from alteration in the blood vessels, that the persistent action of a drug which has the properties of cocaine might exercise a permanent beneficial or curative effect.

A practical experience with four cases of localized neuritis, treated by the cataphoric use of cocaine, had convinced him of the value of the method, and although he did not pretend to say that the cases which have thus far come under his observation furnish sufficient or positive enough proof to establish the procedure, still the results were sufficiently satisfactory to merit their report.

Treatment of Fracture of the Patella.

The January number of the *International Journal of Surgery* contains a clinical lecture by Dr. John A. Wyeth, on Fracture of the Patella. He condemns wiring the fragments to obtain bony union as an unjustifiable operation, as it subjects the patient to the risk of infection, and is liable to be followed by ankylosis of the knee-joint. He claims that ligamentous union is just as efficacious, and can be obtained with much less danger to the patient by the use of mechanical appliances. He says that in the treatment of fractured patella, the first thing to do is to get the fragments together, and it does not matter whether you get them into exact apposition or not. The method he usually employs is a posterior splint made of shellac-board or leather, and extending from near the heel to the gluteal fold. This should be cut wide enough to envelop from one-half to two-thirds of the circumference of the limb. Three inches above

and below the centre of the knee-joint a tongue, one inch wide and two inches long, should be cut and turned out, so that the attached end is nearest the joint. The splint is dipped in warm water until soft enough to be molded to the part, when it is lined with a sheet of absorbent cotton and applied to the limb posteriorly. The padding should be considerably thicker opposite the popliteal space, in order to prevent complete extension of the leg. The upper and lower ends of the splint are then secured by a roller-bandage, and then the bandage is carried in a figure-of-8 fashion around the leg, so as to catch behind the lower tongue cut out of the splint, whence it is carried obliquely upward above the upper fragment, across the quadriceps and back to the starting point. This is continued until the upper fragment is brought into apposition with the lower. For the lower fragment the bandage is made to catch behind the upper tongue upon the splint. That splint is kept on for six weeks; after the first two weeks, the patient is allowed to get up and move about. After six weeks, he loosens the bandage and jams the two fragments together as closely as possible, and while held thus the leg is flexed almost to a right angle, then straightened, and the bandage reapplied. This manœuvre is repeated every three or four weeks for an entire year. After this a strong leather flexion-check splint should be worn for six months longer.

Chloroform the Favorite.

Les Nouveaux Remedes has compiled the statistics of 52,475 administrations of anæsthetics, with the following results: Chloroform, 33,083; ether, 11,669; A. C. E. mixture, 3,896; bromide of ethyl, 2,986; Billroth's mixture, 750; nitrous oxid. in dentistry, 91. Chloroform was used in 63 per cent of the total administrations; ether in 22 per cent., and all the others combined in 15 per cent.

Dr. Joseph Price and the Opium Question.

The members of the Medical Society of Virginia who attended the last session held in Richmond will remember

the remarks made by Dr. Price on the use of opium and its alkaloids, and the discussion they caused. The same views are presented in the writer's characteristic and forcible style in the *American Gynecological and Obstetrical Journal* for February. Dr. Price says that opiates are commonly used without a clear recognition of an indication except that of pain, that their use has been reckless and indiscriminate, and that the medical profession is responsible for the increasing number of opium habitues. He says that opium has done thrice more harm than good, and seems to agree, at least in this one instance, with Oliver Wendell Holmes, that "if all medicines were thrown into the sea, it would be much better for mankind, and much worse for the fishes."

Dr. Price is right in regard to his views about opium as far as abdominal surgery is concerned, and the limitation of his field of work to that cavity accounts for the opinions he expresses, but to condemn a drug because it is abused is as unwise as it is unjust. A patient who would go to Dr. Price to have an abdominal section done is to be congratulated as having selected one of the most skillful surgeons in this country, but one calling on him for relief from the pain of kidney colic would deserve both pity and sympathy.

New Method of Amputating.

Credé, in the *Therapeutical Gazette*, attaches little importance to the Esmarch bandage, avoiding a number of ligatures by doing without it. The form of the flap is also a secondary matter. The important point is to cut a flap lined with a thick muscular layer, as the muscles have a tendency to undergo ultimate retraction. He uses neither drainage nor suture, the edges of the flap being approximated by a gauze bandage applied directly to the stump in such a way as to make slight compression. In twenty-two cases thus operated on, all did well, two-thirds healing by first intention. In the other one-third, small areas of supuration prevented rapid recovery, but in no case was there separation of the wound, as occurs frequently when the flap consists of skin only.

Surgeons Disagree—Intestinal Anastomosis.

The Murphy Button, like everything else of merit, has enemies as well as friends, both at home and abroad. The *Medical Press and Circular*, of Dublin, of January 30th, says that in Paris, at the Société de Chirurgie, at almost every recent meeting the question of methods of operation in gastro-intestinal cases has been more or less under discussion. M. Chaput, who, for some years, has distinguished himself by important observations on abdominal surgery and suture of the digestive tracts, has shown persistent active hostility to the use of Murphy's "Button." M. Quénu maintains that the use of the button renders the operation more simple, easy, and rapid, than suture, and exposes the patient much less to the danger of escape of matters into the peritoneum. M. Chaput maintains, on the contrary, that the operation he favors is not longer, more difficult, or more complicated, for if it is wished to make certain that there remains between the cylinders of the button and the walls of the stomach or intestines no fissures through which matter may escape, it is necessary, by way of precaution, to put in extra stitches, and this takes up time and lengthens the procedure, but M. Quénu denies that extra sutures are even necessary when the button is fixed in the proper way.

The Annals of Surgery for February contains an article by Dr. Robert H. M. Dawborn on "The Relative Value of the Murphy Button and Absorbable Plates in Intestinal Anastomosis." While admitting that the operation of cholecyst-enterostomy the ingenious device is wonderfully successful, and a great advance upon former plans, he points out certain objections to its use in gastric and enteric work which he enforces by calling attention to some cases reported at a meeting of the New York Surgical Society, November 14, 1894, by four of its members.

Case I (Dr. Abbe).—This case was one in which a tumor necessitated excision of the caput coli. Entero-colostomy was performed, using the Murphy button, uniting the end of the ileum to the side of the hepatic flexure of the colon.

The patient did well for a few days; then died with symptoms of obstruction. Autopsy showed that obstruction was due to rather hard fæces blocking the opening in the button.

Case II (Dr. Abbe).—In this patient colo-colostomy was performed, using the largest ordinary size of round button. The patient recovered, but did not pass the button. Six weeks later a second coeliotomy was done for excision of the offending loop, with tumor; whereupon it was found that the button was retained still in the colon, and on the wrong (proximal) side of the anastomosis. Recovery.

Case III (Dr. Abbe) —Here colo-colostomy was performed. An unusually large button was used, selected by Dr. Murphy himself, and sent to Dr. Abbe shortly before the operation. Result, death from gangrene of gut-wall at the side of the button. Dr. Abbe was inclined to attribute this result to the weight of the button and its size, at least in part.

Case IV.—Dr. Kammerer reported the case of a patient of his upon whom he did entero-enterostomy (small gut to small gut) end-to-end, using the button. Death after twelve weeks from peritonitis, the button not having been passed meanwhile. Autopsy showed the button retained, and on the wrong (proximal) side of the anastomosis; and at this new line of union the ends of the gut separated one from the other upon very slight traction. (This easy separation of the ends he thought possibly due to sepsis.)

Case V.—Dr. Van Arsdale did a Von Hacker gastro-enterostomy upon a patient, using the round button. Death ten days later, from exhaustion, apparently due to disease. Autopsy showed anastomosis perfect; but button had been retained, and was loose in the stomach.

Case VI.—Dr. Meyer reported a gastro enterostomy by Wölfler's technique, and using the round button; patient recovering, and living between two and three months; then dying of acute tuberculosis of the lungs. Autopsy showed the anastomosis still excellent and uncontracted, but the button lying free in the stomach.

Dr. Dawborn says that while it may justly be claimed that the contents of the small intestines are always fluid or semi-fluid, and therefore capable of passing through the rather small lumen of the button, yet, in Dr. Abbe's first case, we have an instance of death from obstruction of the opening.

In gastro-enterostomy, entero-enterostomy and colo-colos-

tomy it is plain from the cases reported that the danger of permanent retention of the button is a very real one.

Dr. Dawborn says that absorbable plates of one or another kind, if used by those skilled in surgical technique, are almost as rapid a device, and are as certain of securing union of coapted surfaces as the button, and that after their function is performed they become softened, digested and disappear instead of remaining in the stomach to cause trouble.

Absorbable plates for intestinal anastomosis were first suggested by Dr. Nicholas Senn. Originally they were made of decalcified bone, but potatoes, turnips, and a number of raw vegetable tissues are now also used, which have the following advantages:

- (1) The vegetable plates are always obtainable at a minute's notice.

- (2) They cost nothing.

- (3) They are easily made by anybody with a penknife.

- (4) They can, without difficulty, be made to have a very long opening—often a desideratum—to guard against stenosis from late contraction. Indeed, with sweet potatoes it is easy to cut a plate that shall have a four-inch opening.

- (5) They are softened, absorbed, and hence gotten out of the way sooner than bone-plates. Indeed, the latter plates, taking a week or so to absorb, have in one or two instances caused death by sliding on each other, finally, after a number of days, enough to obstruct the opening.

- (6) They are more pliable than bone, easier to preserve, and better brought together in making the anastomosis, slipping much less.

To substantiate his position, Dr. Dawborn, in conclusion, quotes the following statistical remark from Magill:

"Of sixty-one gastro-enterostomies, only one death has occurred from insufficient approximation. This fault was during the experimental stage, before perfection of the details of the method. The cause of the accident was immediately recognized and corrected. Fifty-six operations since the first of January, 1889, where moist plates were used, have not once revealed a fault of approximation."

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
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Aspermatism.

Dr. J. Henry C. Sims, of Philadelphia, in the *Medical Journal* for January 26, 1895, publishes a case of aspermatism which is of interest as constituting a rare variety of relative impotence, and from the sociological element involved. The patient was a strong, healthy Irishman, 27 years of age, and a blacksmith by occupation. His genital organs were normally developed, testicles rather above the average in size. Erectile power was normal and *libido sexualis* present, but rather vague. When under the influence of sexual excitement, he experiences no difficulty in *immissio penis*, but has no orgasm. There is no discharge of seminal or other fluid during the act, the penis, after a time, becoming flaccid. He has some feeling of satisfaction at this juncture. There is no discharge of fluid ante or post-action.

He has very rarely lascivious dreams, and never pollutions. The urethra admits a full-sized sound, and shows a normal sensibility at the *pars prostatica*. He never suffered from any urinary difficulty, nor has there ever been any deposit in the urine after coitus. As far as could be ascertained, there was no abnormality of the prostate or seminal vesicles. He has never, in his life, had a seminal emission or any discharge of fluid from his urethra. Owing to the lack of pathologic change, or history of disease, or excessive venery, the case has been classed provisionally among those of psychical aspermatism, because it might be explained only on the theory of want of excitability of the reflex centre of ejaculation.

All conditions for the perfect performance of fruitful connection are present except seminal fluid.

The case differs somewhat from others of the class, as there is never any discharge from the urethra even in the

form of pollutions, and hence the author would consider it a case in which there is no secretion of spermatic fluid, and consequently the sexual passion is necessarily not perfectly developed; or, more correctly, there is a partial delay of development of sexual passion, and, as a result, no secretion of semen.

The author is inclined to believe that under the regular sexual hygiene of married life the testicles would very probably assume their proper physiological function.

In regard to the propriety of marriage in cases in which there exists permanent sterility, there should be no hesitation in advising against it. The author agrees with Curling "that a man who is unable to obey the command, 'be fruitful and multiply,' is right in disappointing the hopes and periling the happiness, and, probably, health of a woman, cannot, I think, be maintained by any casuist; and, in some of the foregoing cases, I have felt it my duty to give advice in accordance with this opinion." If, however, there exists any reasonable doubt as to the permanency of sterility, it is well to state the *pro* and *con* to the patient, and let him assume the responsibility of a decision.

Molluscum Contagiosum.

The question of the contagiousness of molluscum contagiosum is considered by Dr. Henry W. Stellwagon in a communication to the *Journal of Cutaneous and Genito-Urinary Diseases*.

Since the time of Bateman, this question has been the subject of periodical discussion. The number of advocates of its contagiousness has steadily increased, and from the proofs advanced in the last eight or ten years the communicability of molluscum contagiosum must be accepted as an established fact.

Negative evidence, such as sporadic occurrence of the disease and failure of inoculation experiments, cannot be weighed against positive facts pointing unmistakably to the contrary. The source of infection in other diseases well known to be contagious is often difficult to discover and inoculations uncertain.

Clinical examples are given of communicability from one to several members of a household, and from family to family, such as Erasmus Wilson's cases, in which a girl of four, presenting fifteen to twenty tumors, communicated the disease to an infant sister, and another sister aged six; the mother also had several lesions on the neck and the remains of some on the face.

Clinical examples are also given of its spread in asylums, schools, hospitals, and examples of accidental inoculation. The latter have been cited chiefly from American observers. Successful inoculations have been reported by Relzins, (1872); Paterson, (1872); Vedal, (1878); Stanziale, (1890); Pick of Prague, (1892); Haab, (1886); Nobel, (1893).

These successful and intentional and accidental inoculations would serve to put the question of contagiousness beyond doubt. The disease is probably parasitic.

Some years ago, while serving as resident physician in a large orphan asylum in New York city, I saw a number of cases of this peculiar affection, and had an excellent opportunity of observing its contagious element. The mollusca were generally situated on the eyelids, nose, or along the vermilion border of the lips; when in the last situation, they were apt to be pedunculated.

The children were separated according to age into different grades, and association between the several grades was not intimate.

Cases occurred in each grade, though they were more numerous among the very young children. There were no examples of the disease among the nurses or attendants except in one instance, in which the daughter of the superintendent, a girl of 15, apparently acquired a pedunculated molluscum on the upper lip from frequently kissing a little girl who had a number of the small tumors in a similar situation.

In order to test the transmissibility of the affection, I made a number of inoculations. I pressed out the contents of one of the growths and rubbed a small quantity on the outer surface of the prepuce of a young healthy boy.

I also made a similar inoculation on the fore-arm of another child, and on my own left arm just above and to the inner side of the elbow-joint.

The epidermis was just scraped off before making the inoculation, after which the material from the growth was rubbed in with considerable friction, and the point of inoculation covered by a bit of gauze and rubber tissue. This was kept on for a week, and then removed. Examination at this time was entirely negative. The first two cases were under observation for nearly a year, and never showed any sign of molluscum or other change. I have, from time to time, examined my own arm, as the idea would occur to me, but as, after the lapse of nearly four years, nothing has appeared at the seat of inoculation, I may safely consider the experiment a failure. The absolutely negative result of these experiments led me to be somewhat incredulous of the communicability of the disease by inoculation, but the numerous instances of success brought out in Dr. Stellwagon's paper go far to alter my view.

I notice that in the list of observers who have been successful in developing the disease from inoculation there is not a single American, though such experiments have been tried many times on this side. This might be accounted for on the assumption that the European variety of molluscum contagiosum possesses the contagious element in a higher degree than the home product. That the same disease may occur under somewhat different aspects in different parts of the globe is well-attested. While the assistant of Dr. Unna of Hamburg, I had an opportunity of examining nine varieties of favus from as many parts of the world. Each belonged to a different species of achorion and acted differently from a bacteriological standpoint under the same circumstances, though the clinical appearances were quite similar. Unna, therefore, dubbed each one according to geographical considerations, as achorion polonicus, achorion Hamburgensis, etc.

A further instance of variation in type depending upon locality is the difficulty (to me, at least,) in always finding

the itch insect in his burrow, or to find the tunnels themselves, a difficulty that I did not experience in European scabies.

It would seem that the sophisticated *acarus scabies* of the New World possessed an elusiveness of pursuit and a power of concealment and other qualities of the artful dodger that its ingenuous confrere on the other side of the water has not yet learned to imitate.

Ponca Compound Tablets (Mellier)

Possess a real value in the relief of after-pains as well as in many forms of dysmenorrhœa. They seem to exert a direct action on tissue metamorphosis, soon relieving pain and reviving physiological functions. The formula has been too long before the profession to require restatement. The use of these tablets will save many a lady from the pains of menstruation. Drs. Chas. A. L. Reed, of Cincinnati; Prof. I. N. Love, of St. Louis; Prof. Thomas Hunt Stucky, of Louisville, etc., all testify to the benefit patients derive from the use of Ponca Compound Tablets during dysmenorrhœa.

Somatose—Its Indications, etc.

Dr. Robert Reichle (*Corresp. Blatt. d. Ver. Deut. Aerzte in Reichenberg*, Jan. 15, 1895), concludes that somatose is indicated in gastric affections, especially cancer of the stomach, in phthisis, and as a dietetic remedy. It can be injected subcutaneously in 10 per cent. solution without local irritation or disturbance of the general health, or it may be administered in doses of 2.5 to 5.0 gm., in milk or lukewarm water, three to four times daily. The preparation is well borne, and very serviceable as a readily digestible nutriment.

Terraline.

“In the treatment of lung and throat affections, especially where you have a dry and persistent cough to deal with, your patient will experience immediate relief by administering terraline. We have tried this excellent preparation, and heartily recommend it in cases as above mentioned.”—*International Journal of Surgery*.

*Proceedings of Societies, Boards, etc.***MARYLAND CLINICAL SOCIETY.****Stated Meeting December 7th, 1894.**

[Reported by H. O. Reik, M. D., Secretary, 525 N. Howard street, Baltimore.]

Dr. Wilmer Brinton read a paper on the

“Induction of Labor in Nephritis, with Report of Cases.”

I have been induced to bring this subject to your notice by the reading of a paper on “The Significance of Albuminuric Retinitis in Pregnancy,” written by Dr. R. L. Randolph, of this city. Dr. Randolph reports five cases of albuminuric retinitis occurring in pregnant women whom he has seen during the past two years, in which cases he decided by ophthalmoscopic examination whether it was the proper treatment or not to induce labor for the purpose of saving the eyes and perhaps the life of the woman. In cases related not only were the eyes saved where labor was induced, but in the cases where he advised the continuation of pregnancy, the women escaped eclampsia. Judging from the first case reported by Dr. Randolph, there must be some difference of opinion even among oculists as to when premature labor should be induced, for the report of this case, which I shall now read, will show that the first oculist consulted advised a different method of procedure from that recommended by Dr. Randolph.

Case.—Mrs. M., 31 years old; three children living, and up to the fourth month of her third pregnancy had enjoyed good health. In the early part of the fifth month she began to have violent headaches, which could only be relieved by strong anodynes. They persisted for two weeks, when she noticed that her sight was growing dim. It continued to grow worse until she was practically blind in one eye and the sight in the other but little better. At this time an oculist was called in, pronounced it albuminuric retinitis, and found the urine rich in albumen and some casts present. The induction of labor was advised, performed, and a dead child born. The woman had convulsion, but recovered, with complete restoration of sight. One year later she again conceived, and in the fourth month was attacked with similar headaches. Fearing that her sight would again become bad, she consulted an oculist again, who advised that if she waited

for normal labor she would lose her sight and probably her life. Dr. Kelly was sent for to induce labor, but referred the case first to me. I found the vision 20-15ths in both eyes, and a low grade of hypertropic astigmatism. I found absolutely nothing to denote progressive disease in the fundus. The question was whether or not to induce premature labor. There was a faint trace of albumen in the urine, but no casts. I concluded that the evidence did not justify the operation. My advice was followed and the patient sent home, to give birth a few months later to a boy.

The conclusions of this interesting paper were as follows:

1st. Visual disturbances occurring in the first six months of pregnancy, and especially when associated with violent headaches, frequently mean albuminuric retinitis, and if this condition is found, to *save sight*, pregnancy should be at once terminated.

2d. Visual disturbances showing themselves in the last seven weeks of pregnancy, while indicating the same retinal lesions, are of less gravid import, insofar as sight is concerned, and unless they are very pronounced and associated with widespread ophthalmoscopic changes, should not in themselves call for the induction of labor.

3d. The occurrence of renal retinitis in one pregnancy does not mean that the woman will be likewise affected in a subsequent one. And even though headache be present, and albumen found, so long as the fundi are free from signs of existing retinitis, the question of sight will not be considered.

The very grave prognosis in cases of eclampsia occurring in the pregnant woman, the women in labor, or the parturient, makes the question of nephritis a very interesting one to the obstetrician. Experience and statistics prove that women who have chronic nephritis conceive and carry their children to full term without having convulsions. Indeed, it seems that if they do not abort, they are less liable to eclampsia than women who for the first time develop kidney disease during pregnancy. Cases of nephritis occurring in the pregnant woman, whether chronic or acute in character, must make the physician in charge anxious about the outcome of the case, for the rates of mortality vary from 25 to 40 per cent. for the mother, and from 50 to 75 per cent. for the child, when we have eclampsia occurring during pregnancy, or before the completion of pregnancy. The question comes to us for decision whether we shall follow conservative treatment, which at best will only ward off im-

pending danger, or whether it is best to place the patient at once in a position of comparative safety by the induction of premature labor. Dr. Lusk says: "The weight of authority seems to me favorable to procrastination, the interruption of pregnancy being regarded as an extreme measure, justifiable only in case of utmost peril. But my own convictions are clear that so soon as grave cerebral symptoms develop, the period of folded hands has passed."

The four cases I shall report have come under my notice during the past eighteen months; and while in only two cases was premature labor induced, previous to convulsive movements, yet in the other two, although only seen first when in convulsions, premature labor was induced, as they were not at full time.

Case 1.—Mrs. R., mother of nine children, and between seven and eight months advanced in her tenth pregnancy. Her physician had watched her closely for some weeks and made diagnosis of nephritis. He found albumen and casts in the urine; specific gravity 1010; eyesight very much impaired and rapidly growing worse; headaches violent for days, and several times had had convulsive movements. At my first visit we decided upon premature labor, and under strict antiseptic precaution, I introduced a bougie at 4 P. M. on Friday afternoon. At midnight of the next day she was delivered of a living child. During the time of the induction of labor she had to be kept under the influence of potassium bromide and chloral hydrate. For a week or two both mother and child did well, but finally all her symptoms grew worse, she became totally blind, went into coma, and died, two months after the birth of a child.

Case II.—Mrs. A., 40 years of age; pregnant for the ninth time and supposed to be eight months advanced. She was blind, œdematous, pulse rapid and urine full of albumen. There were very marked indications of beginning convulsions. Treatment had been: infusion of digitalis, compound jalap powder, and chloral hydrate and bromide of potash. I introduced a bougie as in Case I. Hot vaginal douches were given, and some eleven hours after, the mother was delivered of a living child. Some nine months after, her physician writes me that the child died within a month, but that Mrs. A. recovered with good sight.

Case III.—A colored out-patient, with a history of eleven convulsions before my assistant saw her. An examination showed pregnancy of eight months. Child living; woman aged 17. She was removed to the hospital, chloroformed;

bromide of potash and chloral hydrate given to control convulsions. Bougie was introduced, but later we had to dilate with the finger. Simpson's forceps were applied, and after great traction, a dead child delivered. The mother never gained consciousness. Died four hours later, having had fifty or sixty convulsions.

Case IV.—Mrs. V. C., in her first confinement. All during her pregnancy had been well; had been on the street the day previous, and slept well that evening. In the morning, while at breakfast, she suddenly clapped her hands to her head, cried "I cannot see," and fell to the floor in violent convulsion. Within thirty minutes she had six more. Chloroform was given during convulsions and chloral every hour during the intervals, when the patient had intelligence enough to swallow when told to do so. With the assistance of Dr. Watson, dilatation was made by the finger; Simpson's forceps applied, and a living child delivered. The woman had, in the next thirty six hours, about ten severe convulsions, and was practically unconscious for forty-eight hours afterwards. Hypodermics of morphia of one-third of a grain were used, and we saw marked results for good after each dose. She gradually grew better, but complained of bad sight and violent headaches for nearly two weeks. She has done well ever since.

In the brief report of these cases, I have only mentioned a few of the many methods of inducing premature labor, but in closing, I wish to commend the method of dilating the cervix with the finger.

Dr. Michael: This question calls always for quick action, and delay is dangerous. I wish to say a word about the diagnosis. It is made often by the ophthalmologist. A doctor should make the examination of the kidney lesion himself, and it should be so well known to the obstetrician that he should not let the patient go to blindness. I should feel shabby if an ophthalmogist had to tell me of the existence of the disease.

As to the treatment: I disapprove of Dr. Brinton's method of producing labor—that of using the bougie when a woman is having convulsions. Rapid dilatation by the finger is the safest and best method of bringing it on, though it is a difficult and troublesome plan. When the hand is used, you run no risk of getting into the wrong place or doing any damage. The two remedies I like best are morphia and venesection. I do not know what venesection does except bring out a lot of bad blood, but it most surely produces

good results. I believe that morphia and venesection are both extremely satisfactory, and that the latter has not been properly tried.

Dr. William T. Howard is a strong advocate of it. Before coming to Baltimore he had treated seven cases by free bleeding, and saved them all. The next six cases he saw here were treated different, and all died. The next one was bled and got well. I believe the results are better on the average than are to be obtained in any other way.

Dr. Hiram Woods: The question of the eye symptoms is apt to be misunderstood, unless you bear in mind that there are two varieties of blindness associated with albuminuric conditions in pregnancy. One is the sudden failure of sight, such as described by Dr. Brinton, where there is no retinal lesion; the other a case of true inflammation, with white plaques and decided retinal changes. The question is, whether in any of Dr. Brinton's cases there was true albuminuric retinitis. There were no ophthalmoscopic examinations made, and in all he said the blindness was sudden, and with one exception, all got well. I can recall a patient in my care who had albuminuric retinitis in her first pregnancy, and her sight was reduced to a very small point. I followed her through four or five pregnancies, and although nearly blind in each, her sight was always restored to the point it had been left during the first pregnancy. Four of Dr. Randolph's cases had these changes; the other did not. The first case of his which was referred to by Dr. Brinton, was not properly diagnosed. With a woman in her first pregnancy with ensuing albuminuric retinitis, the question suggests itself: Is premature labor in the fourth or fifth month justifiable? I should think it was; but how would that be regarded from an obstetrical point of view?

Dr. Todd: I find that in New York the custom among the physicians is to justify the operation for the saving of life, but not simply to save eyesight.

Dr. Norment: I wish to mention two cases seen recently. One in her fourth pregnancy. In her first, she had eclampsia five or six weeks prior to labor, and conservative treatment was adopted. She was delivered of a child which had evidently been dead for some time. In her second, she had eclampsia during labor, and was delivered by forceps of a living child. In her third, she had a perfectly normal pregnancy and labor. In the fourth, I was sent for, and found her in eclampsia in the eighth month of pregnancy. She was very large, weighing 240 pounds. There was no

evidence of the onset of labor, and the difficulties of inducing labor, the condition of the patient, and the fact that she had been through the thing before successfully, led us temporarily to postpone the induction of labor. We followed Dr. Michael's plan, and bled her freely. She was stone blind, and I found any number of white plaques in the retina. Five weeks later, she was delivered of a still-born child. There was little return of vision until after labor, but later it came up to about one-third normal.

Case II.—I found a woman eight months pregnant in eclampsia for several hours, recognizing no one, and complaining of pain in the head. I bled her freely, she became conscious at once, and was altogether better. She had been perfectly blind, but was soon well enough to read the newspaper. She was afterwards delivered of a dead child. She had, I think, uremia without retinitis; I found no albumen in the urine.

Dr. Brinton: Where we have time, certain methods can be used for inducing labor; but when in a hurry, the use of the finger is best. We did use morphia in one case, and with good results. I once reported four cases in which I had bled, and three recovered. In the next three treated in the same manner, all died.

Number of Medical Schools.

According to Prof. Pepper, in his Inaugural Address at the Opening of the Four-Year Course in the University of Pennsylvania, 1893, "in the twelve years from 1878 to 1889, inclusive, no fewer than sixty new medical schools [in the United States] were chartered." These figures seem startling when compared to the number in some countries. In Brazil, for instance, there is but *one* medical school for every 7,001,167 population, and in Russia, only *one* for every 14,403,317; but in some of the United States we find that there are:—

In Maryland, 1 medical school to every 178,478 inhabitants.
In Ohio, 1 medical school to every 193,279 inhabitants.
In Missouri, 1 medical school to every 206,091 inhabitants.
In New York, 1 medical school to every 428,418 inhabitants.
In Virginia, 1 medical school to every 551,999 inhabitants.

A Good Practice and Residence For Sale—First-rate opening. See bottom of advertising page 24.

*Analyses. Selections, etc.***The Physiologic Action of Sulfonal, Trional and Tetronal.**

In an essay of seventy-two pages, to which was awarded the Alvarenga prize of the Royal Academy of Medicine for 1894, Drs. Vanderlinden and De Buck, of Ghent, detail a long series of experiments made on animals with a view of elucidating the physiological action of the disulfones, comprising sulfonal, trional, and tetronal. Their conclusions are as follows:

1. Sulfonal, trional, and tetronal exert real toxic effects on the organism of the rabbit and guinea-pig, although in a comparatively feeble degree.

2. The degree of toxic power diminishes from tetronal to sulfonal. Our experience does not yet permit us to determine positively the toxicity of the three products.

3. Medium-sized doses do not influence, in any perceptible manner, the metabolism of the rabbit. They do not, as such, give rise to a destruction of the albuminous molecule. The modifications observed (increased eliminations of urea and of chlorides) are due to the diuresis which always accompanies the administration of moderate doses.

4. The diuretic action is, in fact, inversely proportional to the toxic action.

5. The modifications induced in the metabolism of the rabbit are due to the loss of appetite and consequent comparative state of inanition of the rabbit. The increase in the secretion of urea and of salts, comparatively to that of simple inanition in the rabbit, in cases where it exists, is always accompanied by active diuresis. If the latter fails, the mean proportion of urea eliminated by the sulfonized rabbit falls below the proportion eliminated by the rabbit in simple inanition.

6. Sulfonal, trional, and tetronal are not, properly speaking, poisons of the blood. The modifications which they produce in the relative number of red blood globules are due to a lymphagogue property.

7. They produce hypoleucocytosis.

8. The greater part of the phenomena observed under their influence can be interpreted on the ground of an indirect modification of the physico-chemical properties of the blood and of the tissues (hydræmia, modified alkalescence). It must be left to future observations to prove this fact.

9. The morphological changes produced by toxic doses of sulfonal, trional, and tetronal in the principal organs of the body are of slight extent.

Book Notices.

Twentieth Century Practice. *An International Encyclopædia of Modern Medical Science.* By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M. D., New York City. In Twenty Volumes. VOLUME I. *Diseases of the Uropoietic System.* New York: William Wood and Company. 1895. 8vo. Pp. 137. Cloth. For sale by subscription. \$5 a volume.

This is the first volume of an international encyclopædia of modern medical science—to be completed in twenty volumes of about like size. Successive volumes will appear at intervals of about three or four months. The design of the work is to furnish a complete library for the physician, representing the latest of the advances in theory and practice of medicine. The completed work promises to be the master-piece of medical publications during the century now nearly ended. The writers of the several Sections are, as a rule, selected with reference to their eminent ability as authors or teachers in the respective departments assigned them. Thus Drs. Francis Delafield, of New York; Howard A. Kelly, of Baltimore, and G. Frank Lydston, of Chicago, and Mr. E. Harry Fenwick and Mr. Reginald Harrison—both F. R. C. S., London—are the able contributors to Volume I, which treats of “Diseases of the Uropoietic System.”

The first article on diseases of the kidneys by Dr. Delafield is a contribution of inestimable value in simplifying the relations of symptoms to pathology. One who undertakes to read up the standard text-books on Bright's disease, for instance, lays down his studies with a confused idea as to what is Bright's disease. No one seems to know exactly—at least not with sufficient emphasis can he state his views to prevent another writer from giving the name to an altogether different set of signs, symptoms, etc. Dr. Delafield is to be complimented in that he avails himself of the commanding opportunity he has as the author of this article in the standard work of the century, to do away entirely with the naming of any of the pathological conditions of Bright's disease. The article makes plain many of the conditions which other authors confound. His part, within the compass of 110 pages, can scarcely be improved—it is a medical treasure. In like manner we might speak of Mr. Fenwick's article on diseases of the urine. Dr. Kelly's article on diseases of the female bladder and urethra

is likewise unexceptional. We are surprised that the papers by Mr. Harrison and Dr. Lydston make no mention—even in their bibliography—of the eminently valuable contributions of Dr. Hunter McGuire made to the subjects they discuss. But, all in all, this volume, with its illustrations, beautiful in design and execution, if taken as a specimen of what is to follow, shows that the completed encyclopædia is to be really a most valuable work—presenting the approved or well-tested advances of the last twenty-five years in the medical sciences.

Surgical Pathology and Therapeutics. By JOHN COLLINS WARREN M. D., Professor of Surgery in Harvard University; Surgeon to Massachusetts General Hospital, etc. *Illustrated.* Philadelphia: W. B. Saunders. 1895. 8vo Pp 832 Cloth, \$6; half morocco, \$7, net.

This is a most estimable and timely work. It covers the entire field indicated in the title, and includes the latest investigations with reference to bacteriology and surgical bacteria. The handsome volume, as issued, contains 135 relief and lithographic illustrations—33 of which are printed in colors. Nearly of them were drawn from original specimens. According to what appears a just claim, the chrono-lithographic plates, "in their fidelity to nature and in scientific accuracy, have hitherto been unapproached." Certainly we do not know of their equal in any of the text-books of the present day. The work may be a little large for the college student; but its completeness makes it all the better for the practitioner; for there are few general practitioners of even a dozen years ago who do not need a thorough overhauling of their studies in order to bring them within the line of the necessary information to undertake surgical work to-day. The demonstrations of surgical bacteria by bacteriology have so revolutionized the doctrines relating to the elementary pathology of such surgical conditions and diseases as inflammation, gangrene, fever, sepsis, tetanus, and the like, as to compel the successful intelligent practitioners of to-day to be acquainted with them in detail. There is no other one book that we have seen that so well—graphically and accurately—describes all the usual details of surgical pathology as this. It must take rank at once as the standard authority on the subject, and is fully up to date as it is possible for a book just published to be. The "Appendix" contains notes of some of the most recent details as to blood serum, therapy, etc., that are of importance to the every-day surgeon.

A Manual of Modern Surgery—General and Operative. By JOHN CHALMERS DA COSTA, M. D., Demonstrator of Surgery, Jefferson Medical College, Philadelphia; Chief Assistant Surgeon Jefferson Medical College, Hospital, etc. W. B. Saunders, 925 Walnut St., Philadelphia, Pa.: 1894. Cloth. Price, \$2 50, net. Pp 809.

"The aim of this manual," says the author, "is to present in clear terms and in concise form the fundamental principles, the chief operations, and the accepted methods of modern surgery. The work seeks to stand between the complete but cumbrous text-book and the incomplete but concentrated compend."

This little book has hit its mark, and found what it was seeking. Its sections are, with few exceptions, fully abreast of the results of modern surgical research. The sections on bacteriology, inflammation and repair are good, though we do not altogether approve the author's subdivision; still, if one has studied "Sener's Principles of Surgery," the defect mentioned will appear immaterial.

The *operation procedure* is concise, but gives all necessary points and so plainly that the student and young practitioner cannot fail to grasp every step. Some of the important operations have been altogether omitted; as, for instance, McBurney's operation for radical cure of hernia. Phelps has been ignored in the sections on hip joint disease, disease of spinal column, and in club-foot operations; and the methods of some operators—probably just as effective but requiring more manual dexterity—allowed to occupy the whole field.

The section on bandaging is particularly excellent, and the illustrations in good taste and most instructive.

The publishers have done their part more than well. The book is the best of its kind now out. H. T. N.

Sexual Neurasthenia; Its Hygiene, Causes, Symptoms, and Treatment with a Chapter on Diet for the Nervous. By GEORGE M. BEARD, A. M., M. D., Edited with Notes and Additions by A. D. ROCKWELL, A. M., M. D., formerly Professor of Electro Therapeutics in New York Post Graduate Medical School and Hospital, etc. *Fourth Edition, with Formulas.* New York: E. B. Treat. 1895. Cloth, small 8vo. Pp. 294. Price, \$2.75

As compared with the popular edition of 1891, this fourth edition contains twelve more pages, which are taken up mostly with a brief consideration of the large number of unfortunates, who, without fault or wish of their own, are in a continual state of sexual erethism, that is abnormal and pathological. The chapter is well prepared, deals practically with the subject in hand, and is most valuable

exposè, or statement of facts. The book is excellent reading for the doctor who could, if he wish, communicate important lessons to many of his patients. With the exception of the chapter referred to, this edition is about a reprint of the third, which we favorably commended in 1891.

Clinical Gynæcology, Medical and Surgical, for Students and Practitioners. By *Eminent American Teachers*. Edited by JOHN M. KEATING, M. D., LL. D., and HENRY C. COE, M. D., Professors of Gynæcology, New York Polyclinic. *Illustrated*. Philadelphia: J. B. Lippincott Co. 1895. Cloth. Royal 8vo. Pp. 994. (From Publishers.)

The success of the *International Clinics* led the publishers to believe that a work on *Clinical Gynæcology* would find a place in the standard literature of diseases of women, and Dr. Keating was selected as Editor. His failing health, however, led him to associate Dr. Coe with him, who completed the work after the death of Dr. Keating. Dr. Goodell also died soon after writing the introductory chapter. In every respect, the work has been completed in the most excellent manner. The book is composed of 19 chapters by 19 authors—well-selected, able clinical teachers. While written specially from the standpoint of the clinician, the chapters are arranged in systematic order. Thus the work opens with methods of examination and general outlines of differential diagnosis; and then follow chapters on gynæcological technique, gynæcological therapeutics; anomalies of development in genital tract; traumatic lesions of the vulva, vagina, and cervix; inflammation of the genital organs; genital tuberculosis; uterine displacements; neoplasms of vulva and vagina; benign and malignant neoplasms of uterus; neoplasms of the ovaries, uterus, and broad ligaments; ectopic pregnancy; functional diseases; diseases of urethra, bladder, and ureters; of rectum and anus; of the breast, and cutaneous diseases peculiar to women. Thus it will be seen that the whole range of gynæcology has been covered. The whole book is written from the standpoint of the practitioner—the post-graduate who seeks to teach and to learn the details of operation or treatment. The figures and photo-engravings are something unusually abundant and accurate, for in most part they are taken direct from nature. In this respect, this is a new book—not simply a rehash of text and of plates borrowed from other works. In short, this is a most excellent, authoritative, graphic and practical work—specially adapted to the needs of the doctor and the post-graduate student.

Editorial.

Diphtheria Antitoxin on Demand.

We take pleasure in announcing that Messrs. Parke, Davis & Co., of Detroit, Mich., are nearly ready to supply any demand for diphtheria antitoxin. This firm deserves great credit for the initiative undertaking in America of establishing a thoroughly-equipped Bacteriological Laboratory for the production of the antitoxin. That perfection of material is their motto is assured by their securing the services of Dr. Charles T. McClintock, who has been so intimately associated with Drs. Victor C. Vaughan and Fred. G. Novy, of the University of Michigan, who, in turn, has been allowed to select the ablest associates to assist him, including the veterinary surgeon. This corps of scientific workers are privileged to make everything that money can supply subservient to their needs which may lead to perfection in results. Guinea pigs of the best breed and under the most careful attention are used as test animals, and seven specially carefully selected young horses, not broken even to harness, and absolutely free of any possibility of glanders or other diseased condition, are the animals from which the antitoxin serum is being obtained. It is probably that by the time this issue reaches subscribers thoroughly tested and satisfactory diphtheria antitoxin will be ready for supplying demands by this ever-progressive manufacturing firm of pharmacists, etc. The small glass tubes containing the sterilized antitoxin are corked with thoroughly sterilized corks, and every precaution is taken to keep the solution free from contamination, even with the air. A needle syringe is placed in a like tube, sealed in like manner, and this, with a tube of the antitoxin, is to be placed in a wooden overcoat or box, ready for shipment by mail. Full directions, as to use of the contents, will be labeled on each box.

The Alumni Association of the Medical College of Virginia

Will hold its session April 2d. Dr. M. L. James, Emeritus Professor of Practice of Medicine, is the appointed leader of the discussion on the *Relation of Kidney Complications or Sequelæ to Heart Diseases*. The Alumni will be held that night, after the commencement exercises of the College are held.

Alumni Association of the University College of Medicine, Richmond, Va.

The second annual meeting of the Alumni Association of the University College of Medicine will be held in the College building at 12 o'clock, April 11, 1895. The officers of the Association are: Hugh McGuire, M. D., of Richmond, Va., President; C. M. Alfred, M. D., of Columbus, Ohio, Vice-President; and Robt. C. Randolph, M. D., of Boyce, Va., Secretary and Treasurer. Some alterations in the Constitution will be suggested, and much new business brought before the Association. It is hoped the attendance will be large.

Dr. Stuart McGuire, who was elected at the last meeting to open the discussion on some medical, dental or pharmaceutical subject, has selected the question of "The Treatment of Lateral and Antero-posterior Curvature of the Spine," and an able paper may be anticipated.

A banquet will be tendered the Association while in Richmond, and the meeting promises to be a great success.

The Medical Examining Board of Virginia

Will hold its first session, under the new law, for examination of candidates for license to practice medicine, etc., in Virginia, May 8th and 9th, 1895. Under the new *regime*, each examiner will be allowed to take the papers home so as to let him have time for a more careful examination of the answers by the candidates, and as soon as he has finished his markings, he will send them to the Secretary of the Board (Dr. Benjamin Harrison), who will compile the averages of the eight departments on which examinations are held, and forward certificates to those who have passed satisfactory examinations. It may be ten days or two weeks before the parties examined will be able to find out their fate. It is important that each applicant shall leave his post-office address with the Secretary of the Board. We may have something further to say about this Board in our April number. In the meantime, we refer all interested to advertising page 34, in this issue.

Hydrozone and Glycozone are not often enough used. Do not forget them when needing reliable preparations of Hydrogen Peroxide, etc.

INDEX TO VOLUME XXI.

APRIL, 1894—MARCH, 1895, inclusive.

EXPLANATIONS.—This Index is divided into two parts: First **Index of Contributors**, which also gives the titles of articles, etc.; and, secondly, **Index of Subjects**.

In the *Index of Subjects*, the alphabetically-arranged italicized lines call attention to titles which represent original articles in this Volume.

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